

**FIG.1**  
**PRIOR ART**

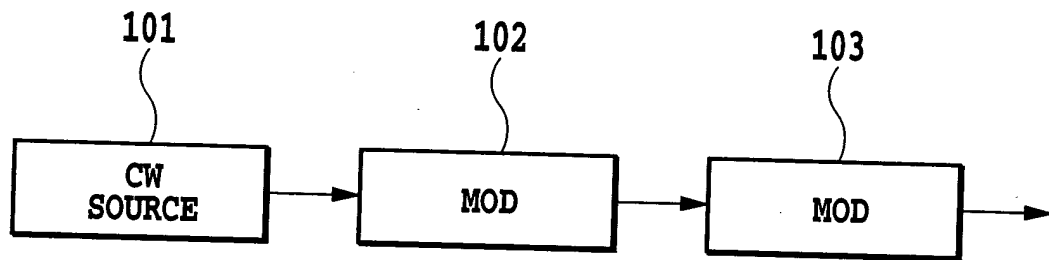
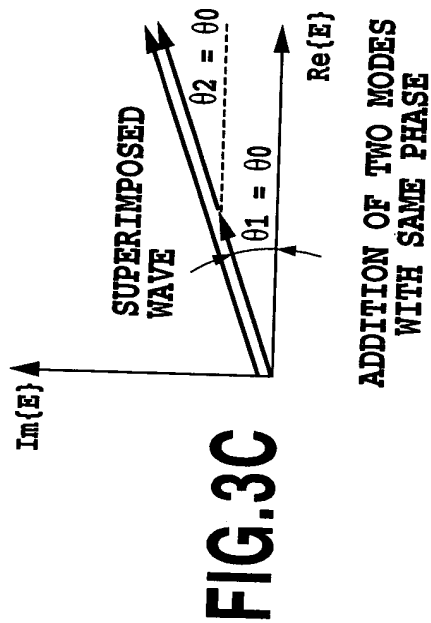
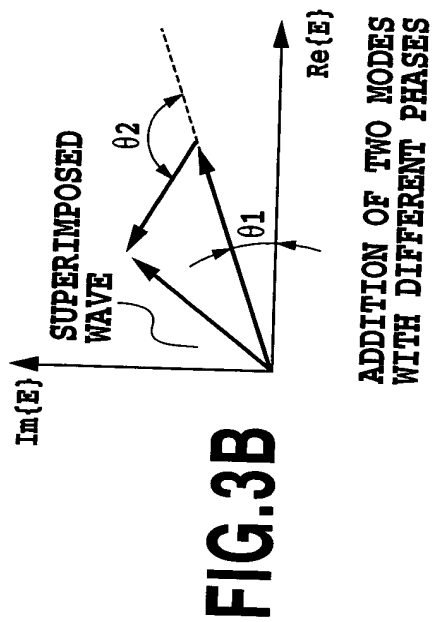
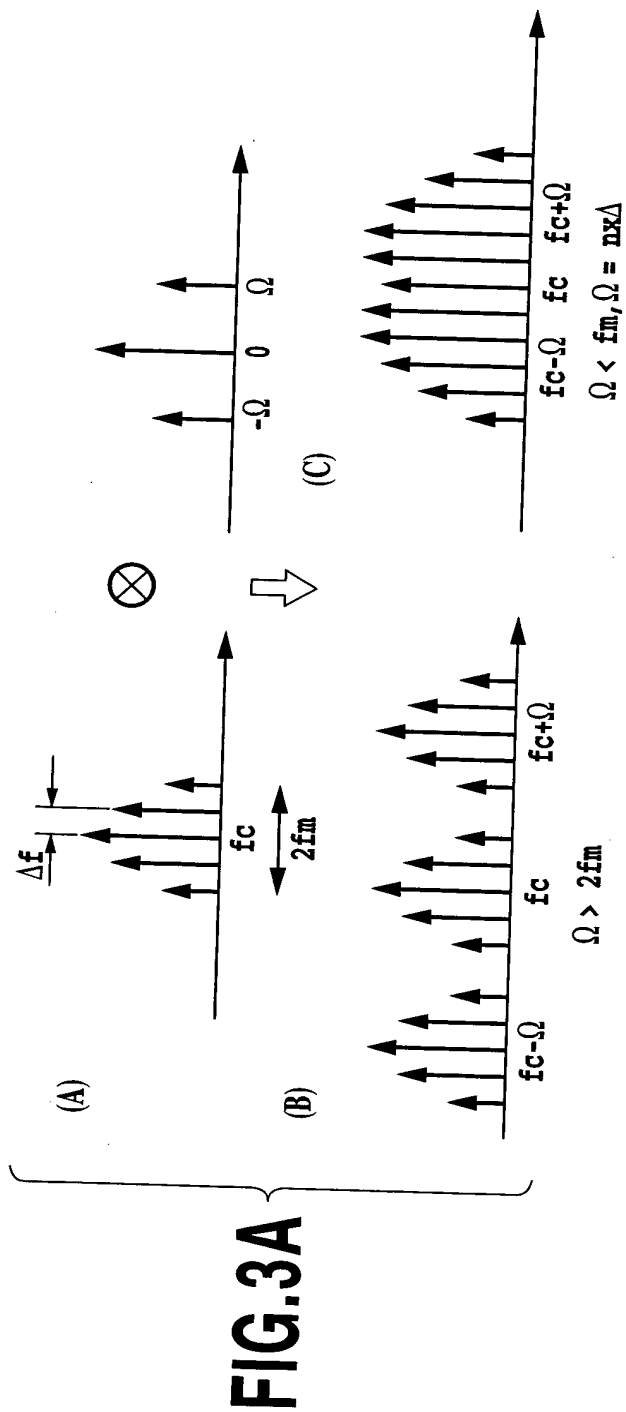


FIG.2

0900613-070601



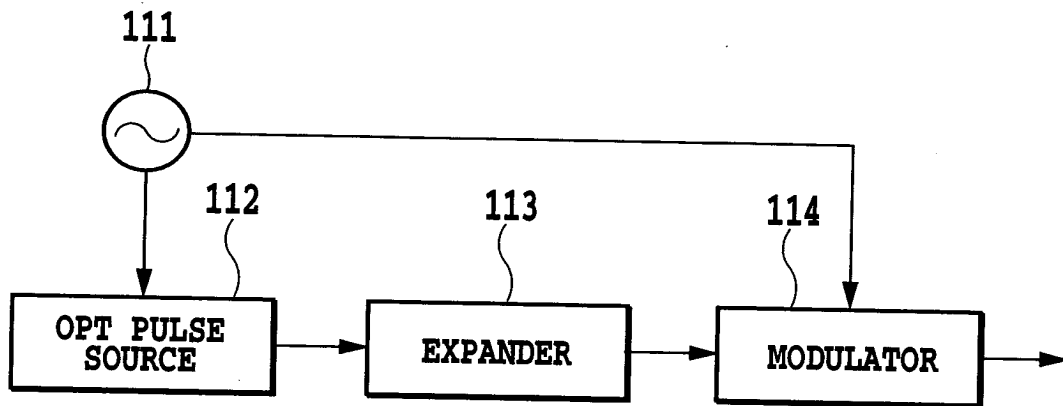


FIG.4

0900613-070601

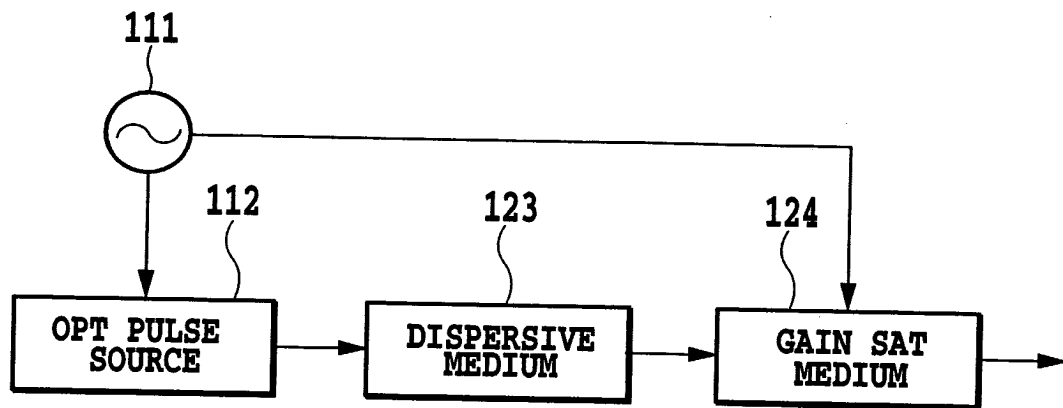


FIG.5

0900613-070601

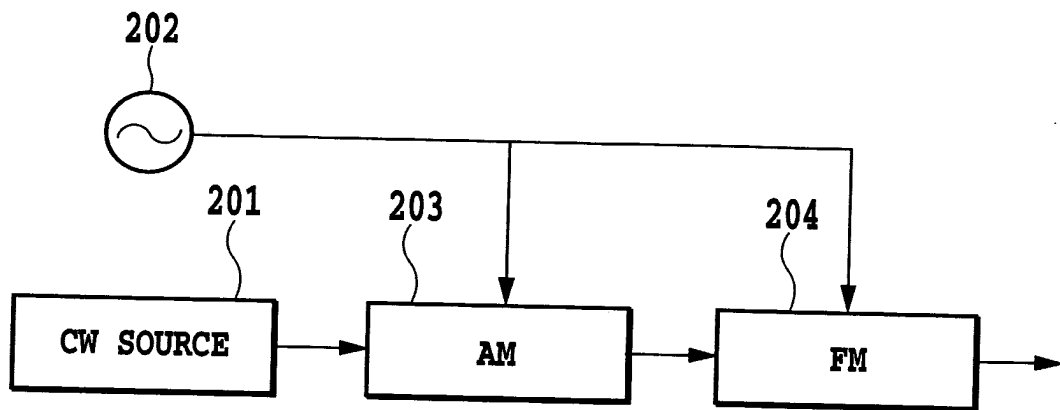
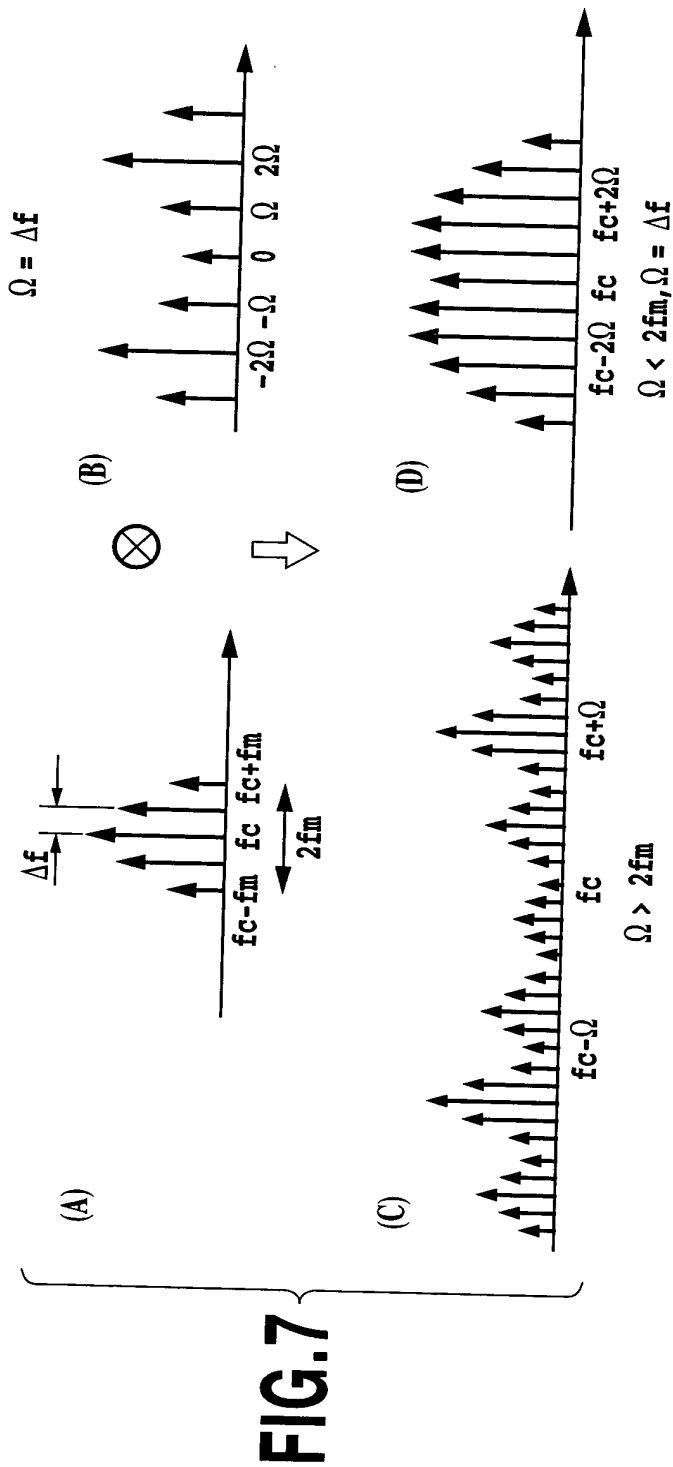


FIG.6



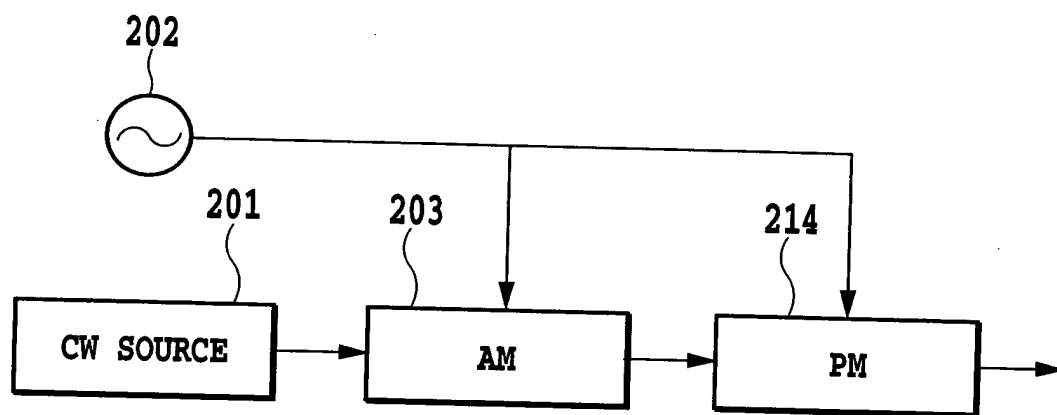


FIG.8

0900613-070601

9/74

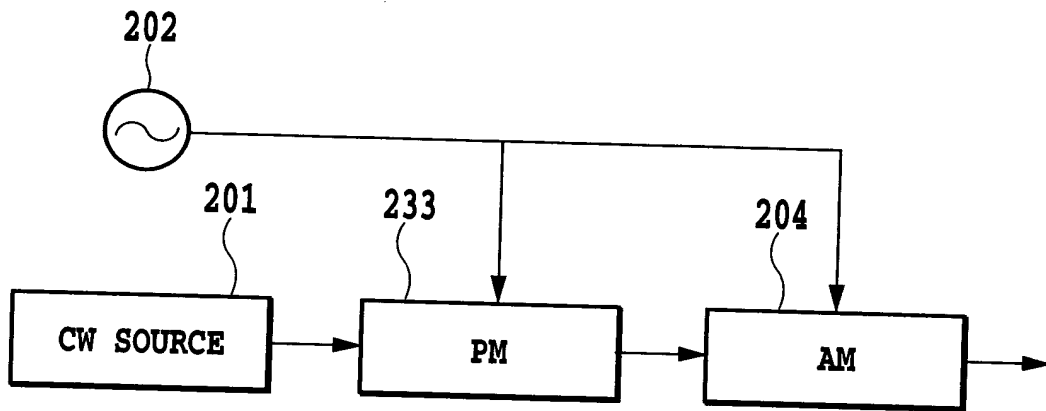


FIG.9

09900613-070601  
109020-ET900660

10/74

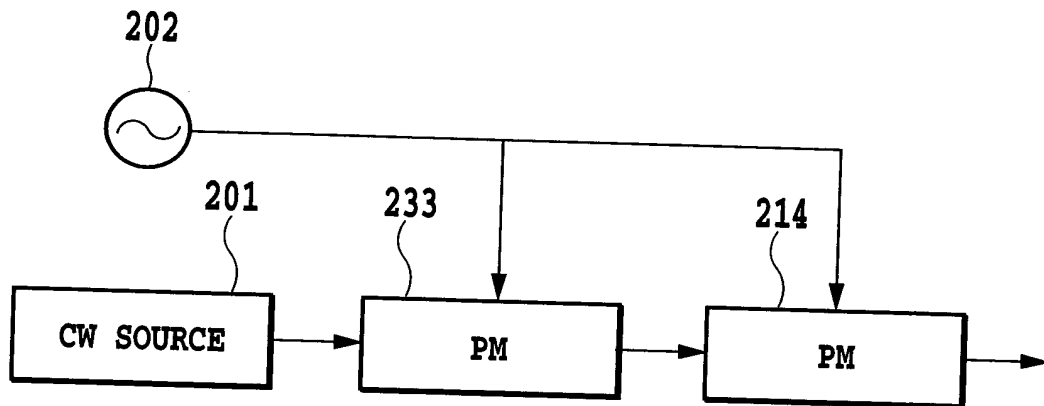


FIG.10

09500513.070601

11/74

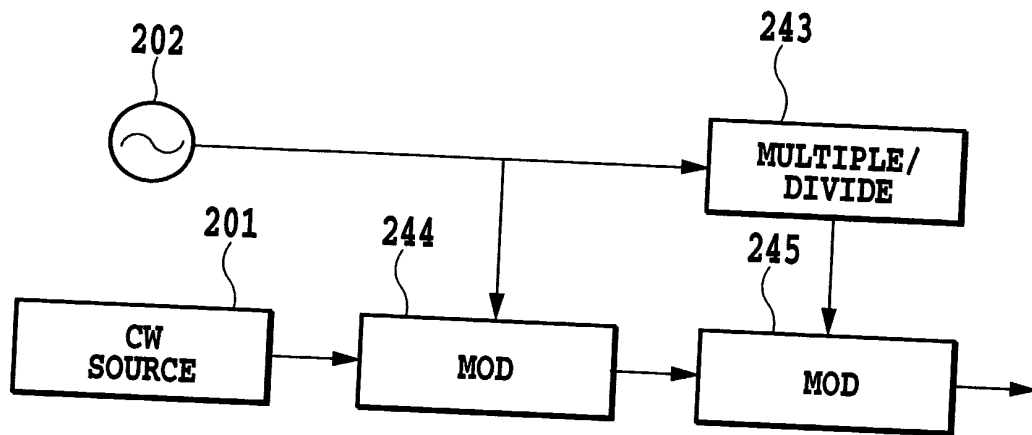


FIG.11

09900613.070601

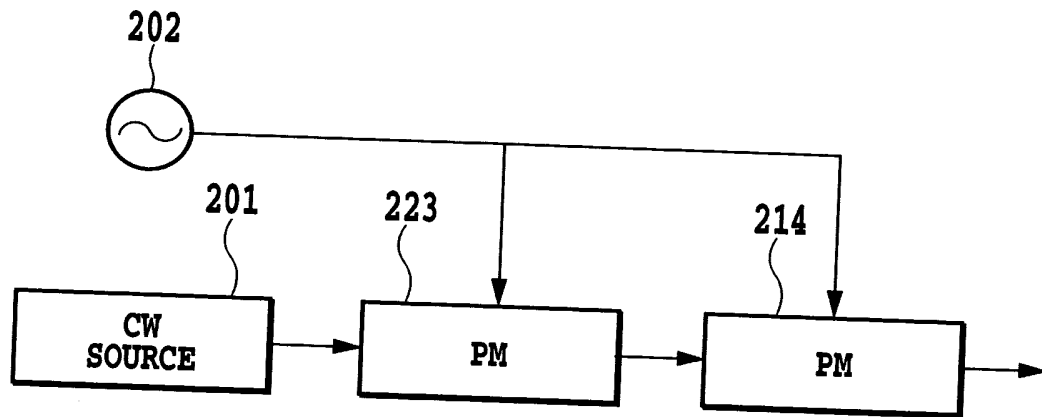


FIG.12

0900613-070601  
T09070-E1900650

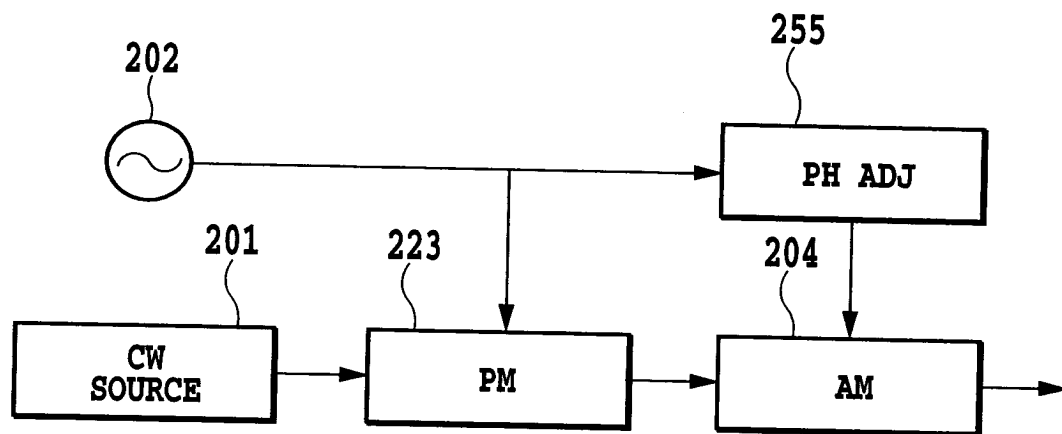


FIG.13

14/74

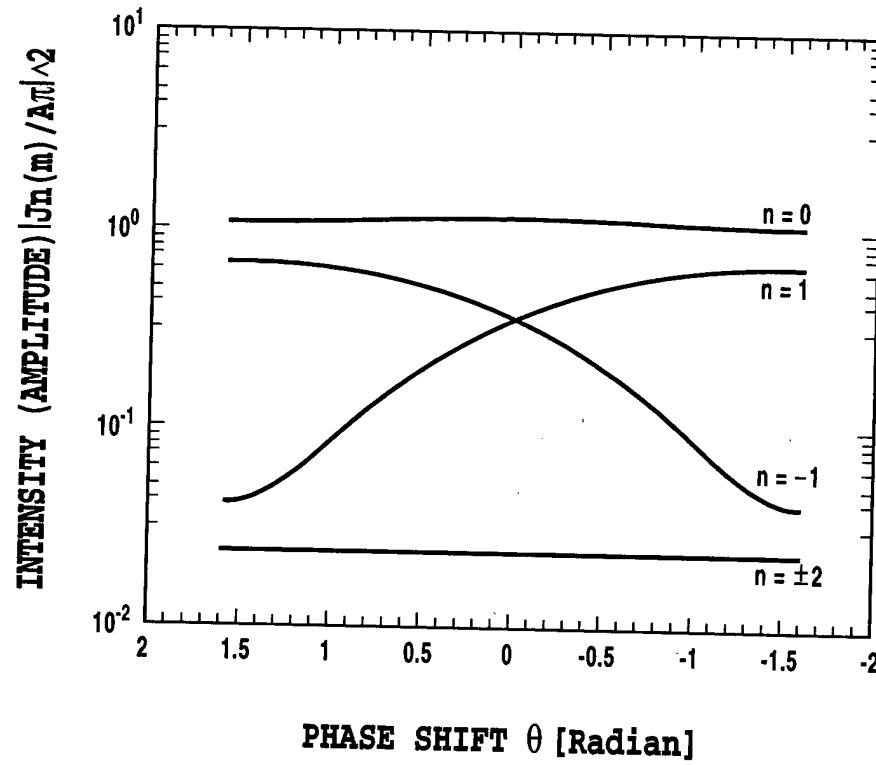
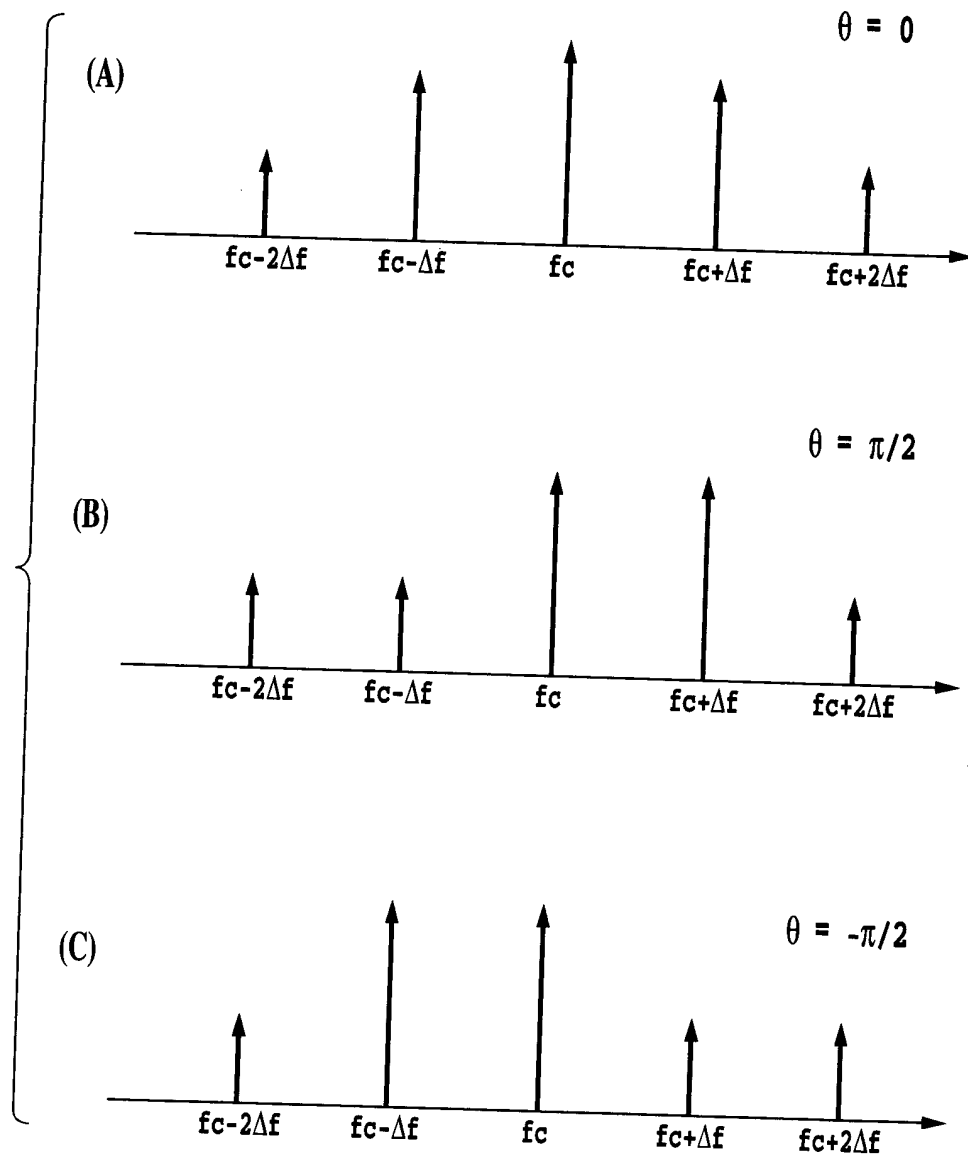


FIG.14

FIG.15



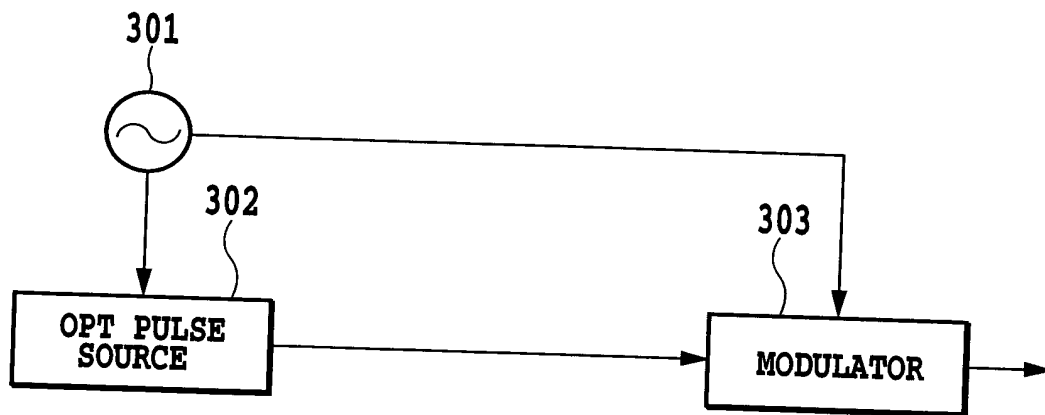


FIG.16

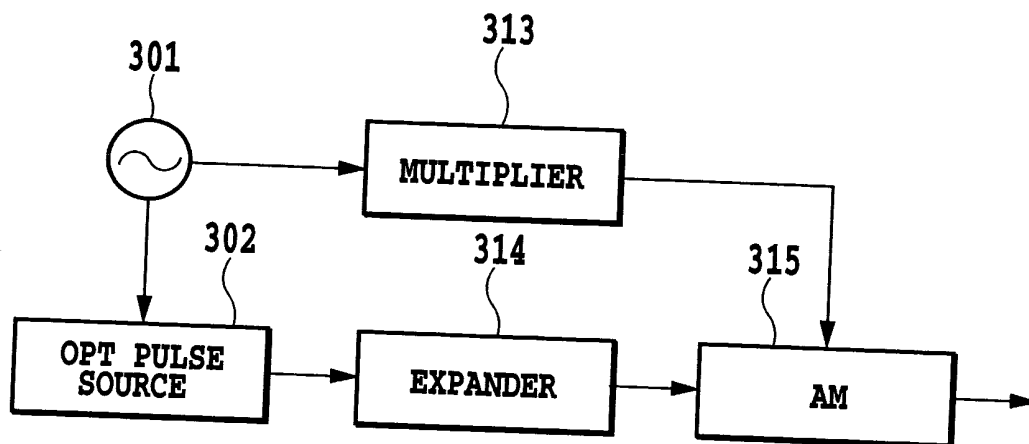


FIG.17

09900617.070601

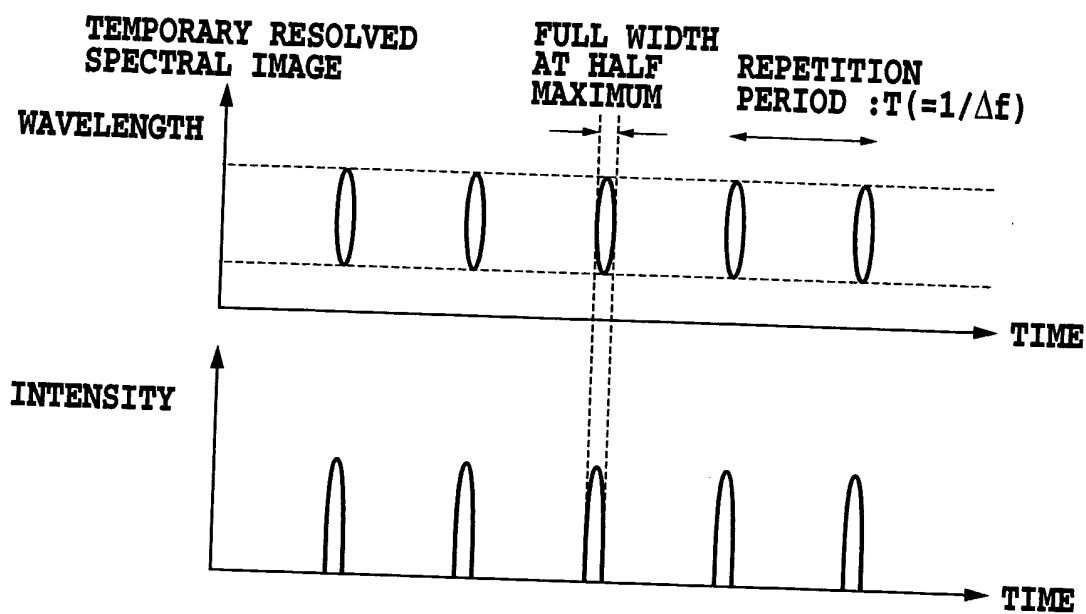


FIG.18

19/74

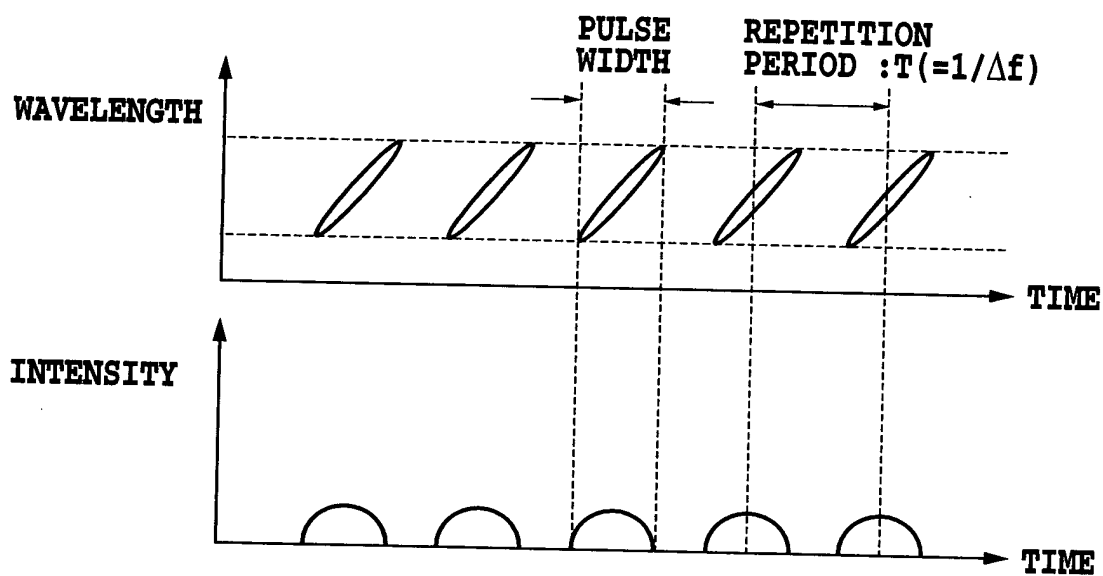


FIG.19

20/74

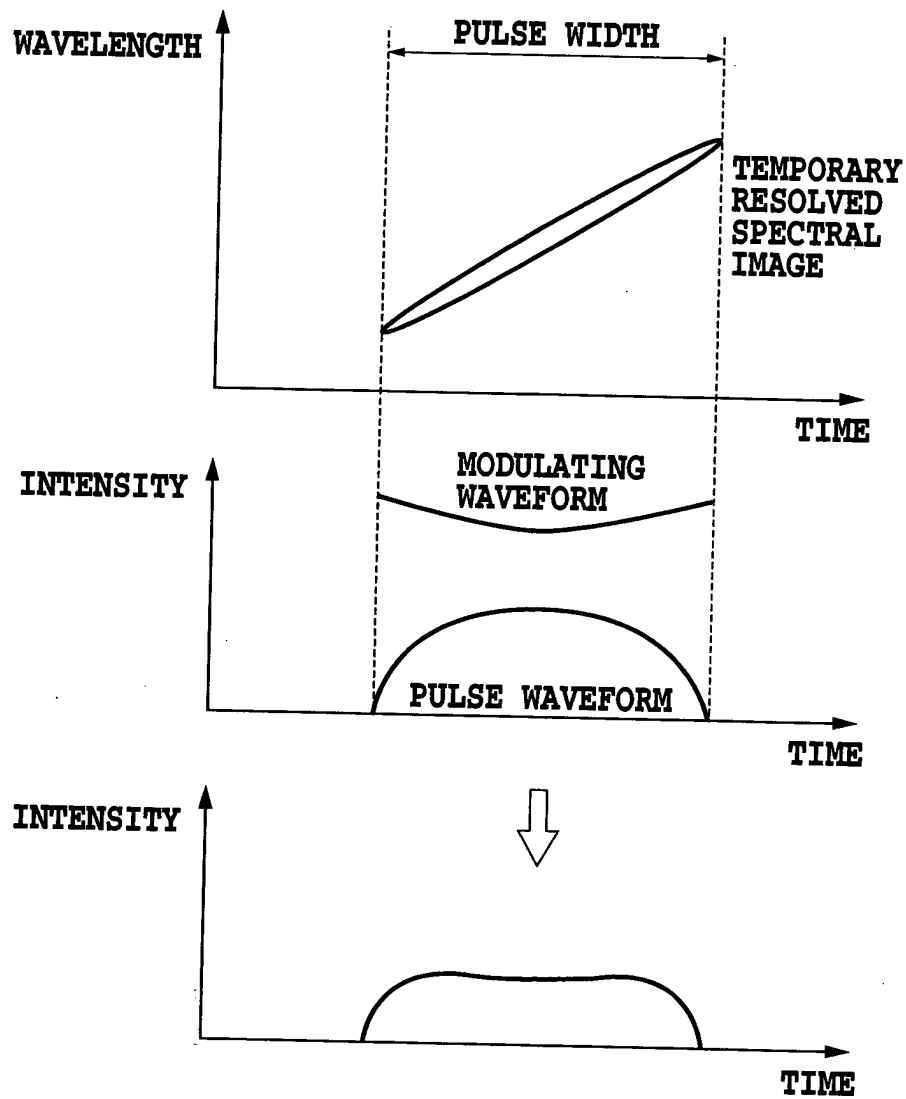


FIG.20

0900613-070601

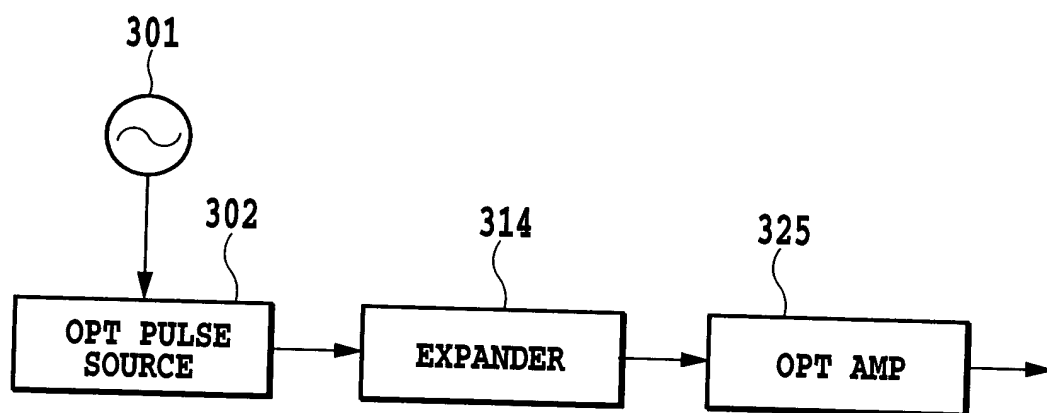


FIG.21

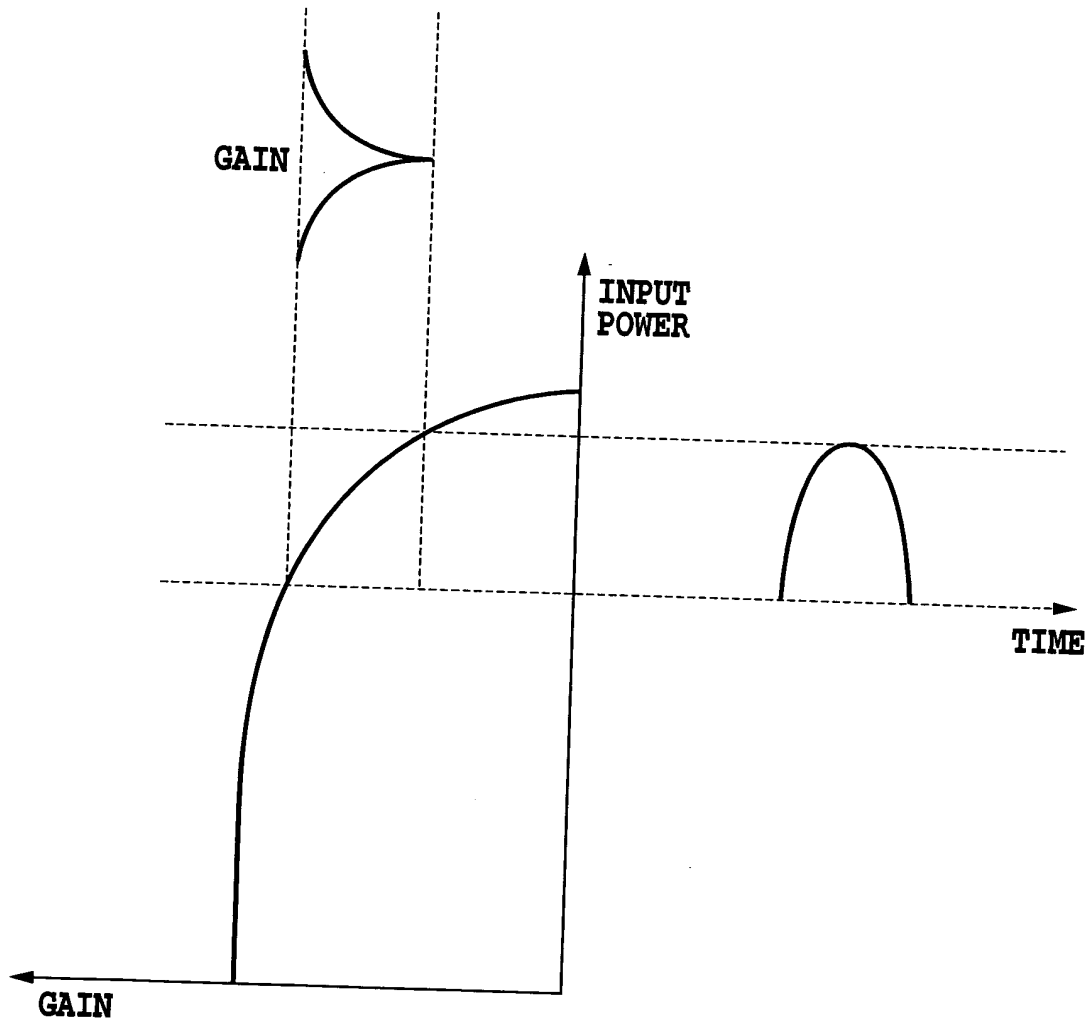


FIG.22

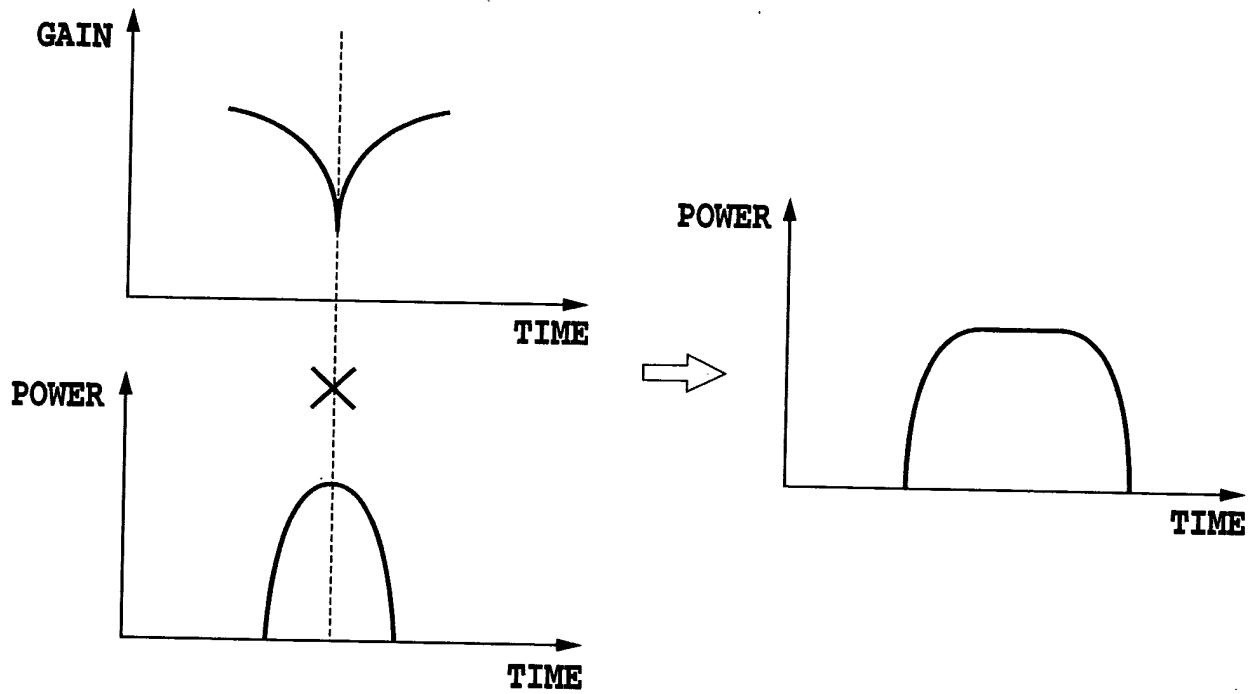


FIG.23

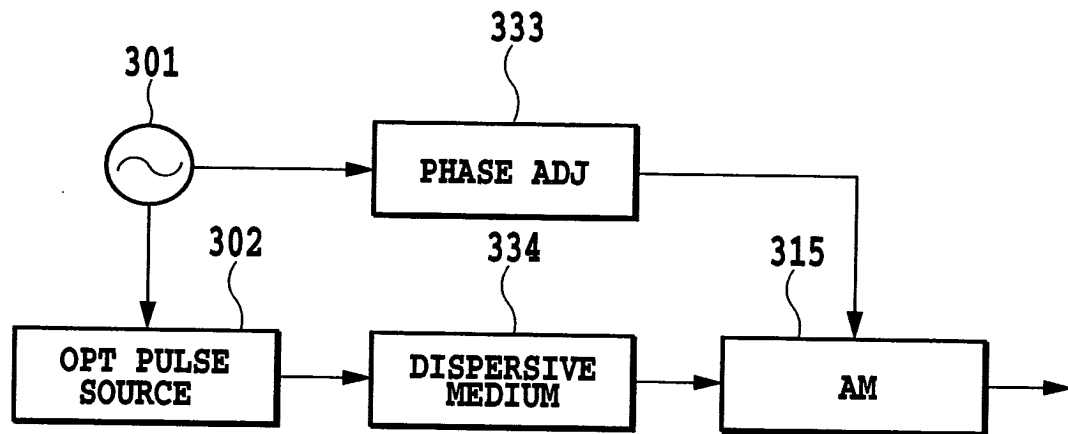


FIG.24

09900613-070601

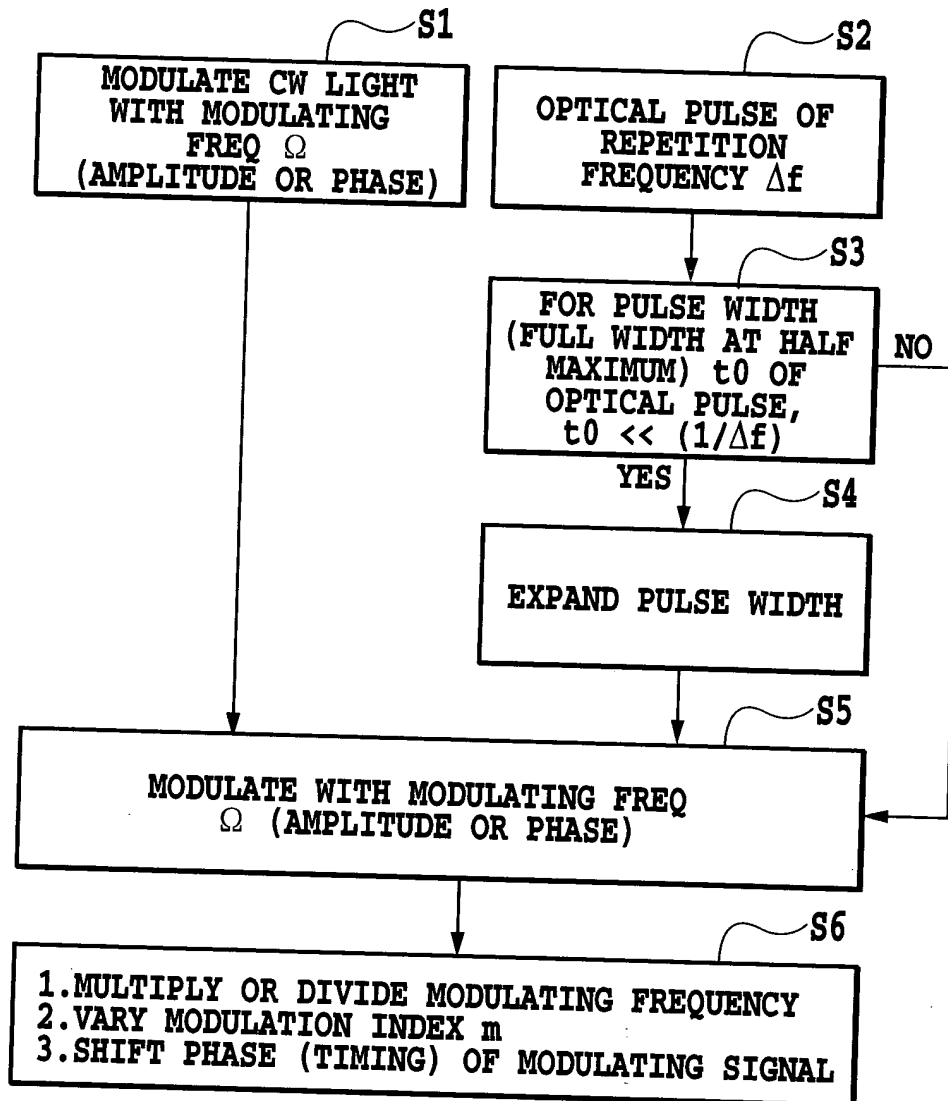
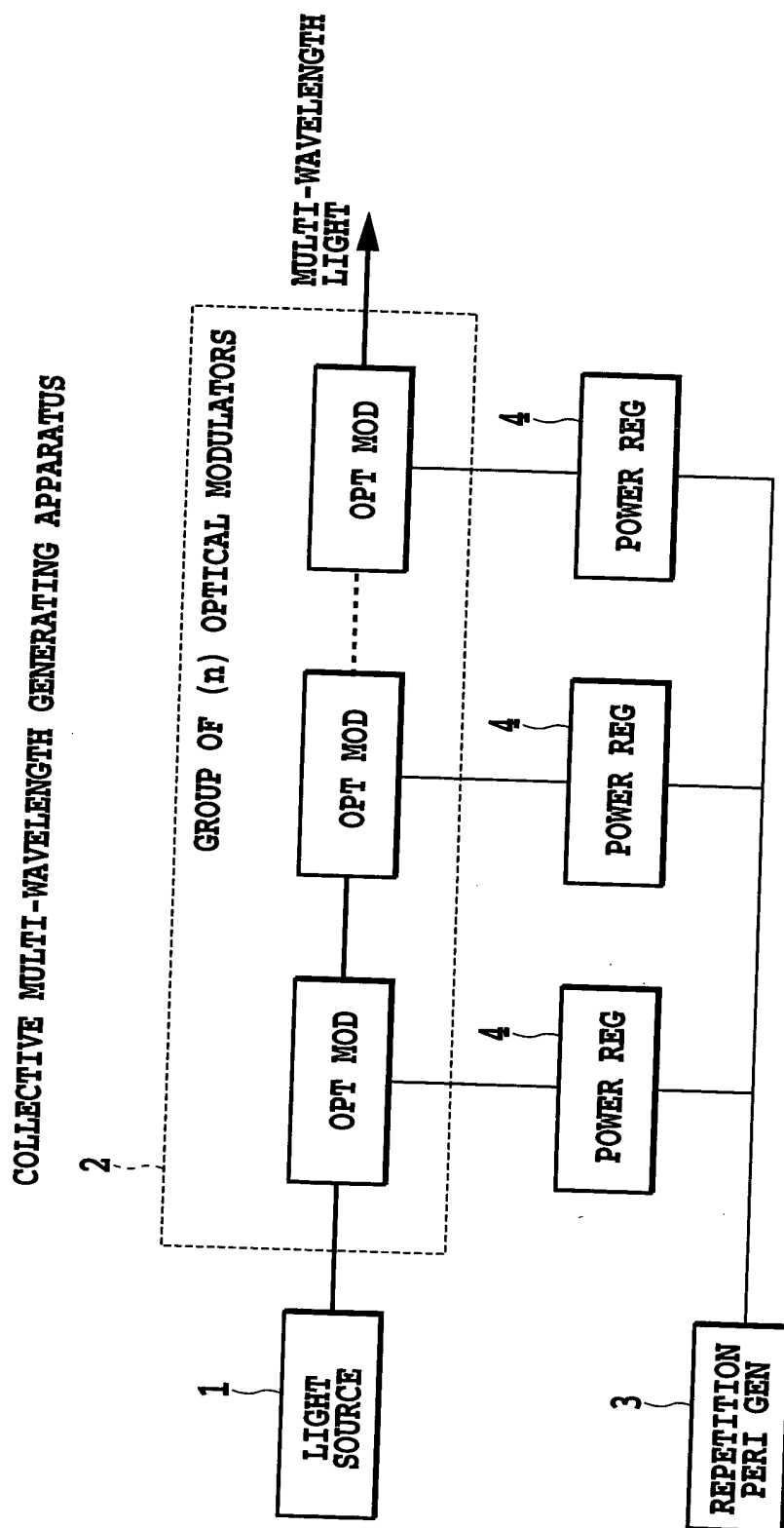


FIG.25



**FIG.26**

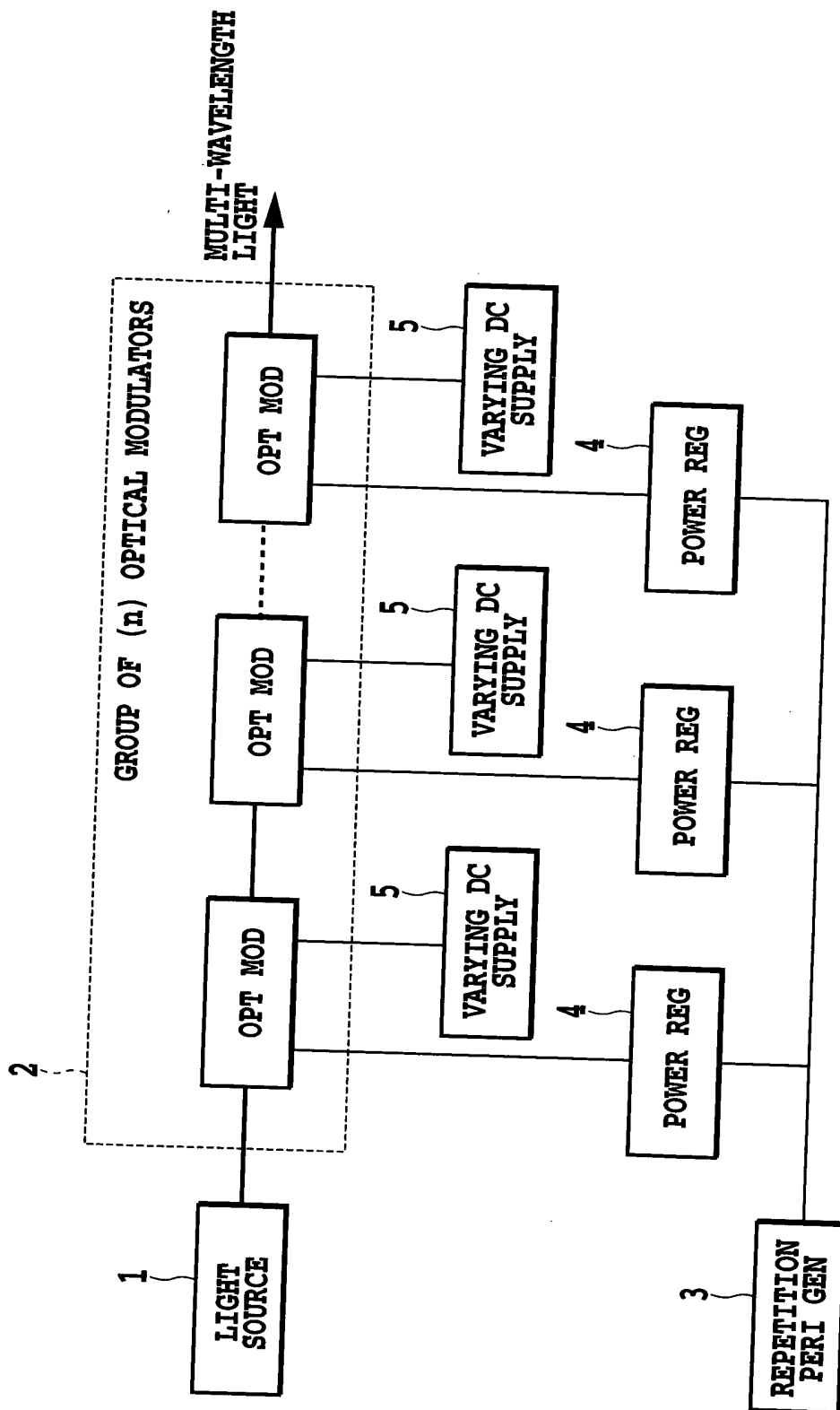
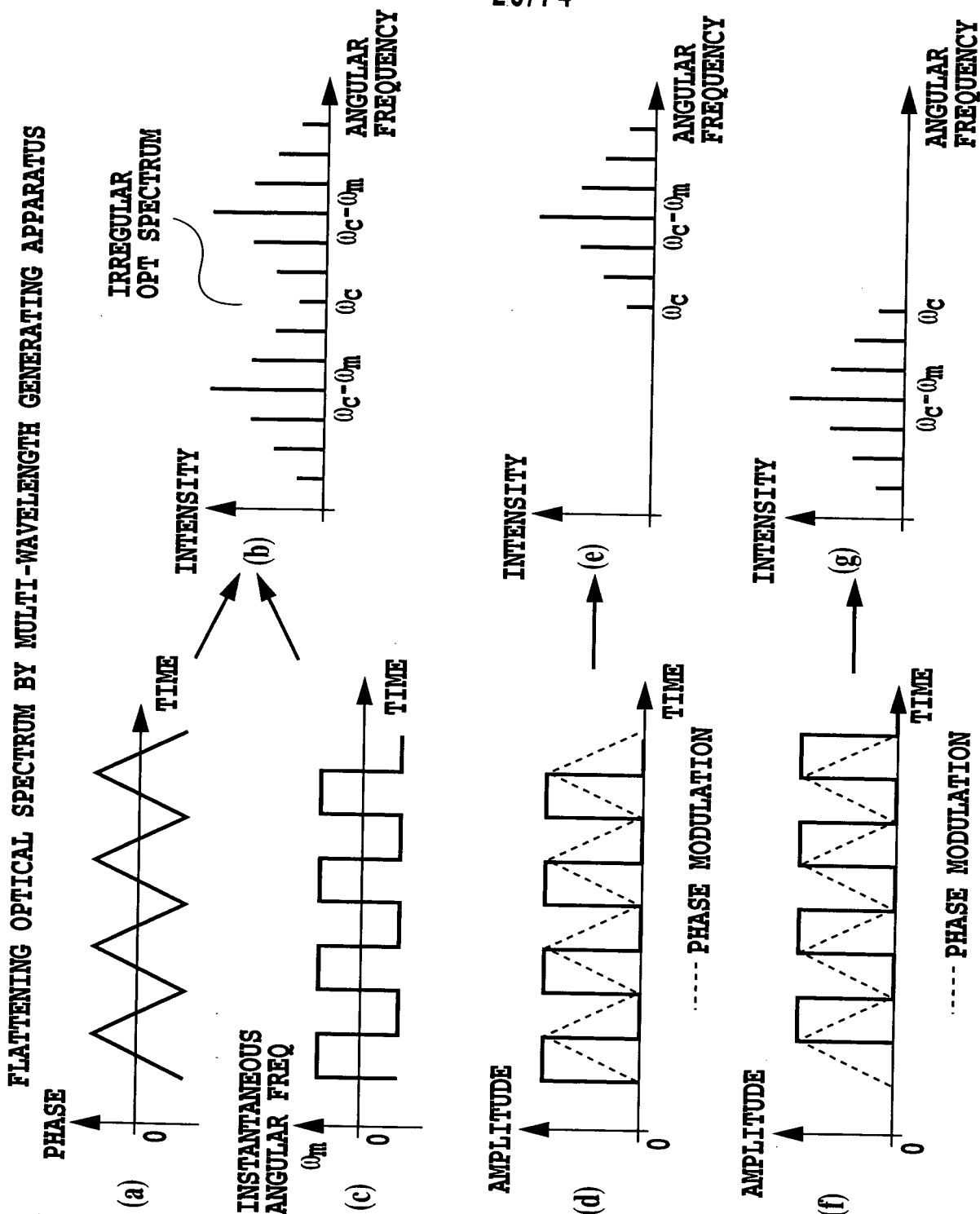


FIG. 27

28/74



**FIG.28**

29/74

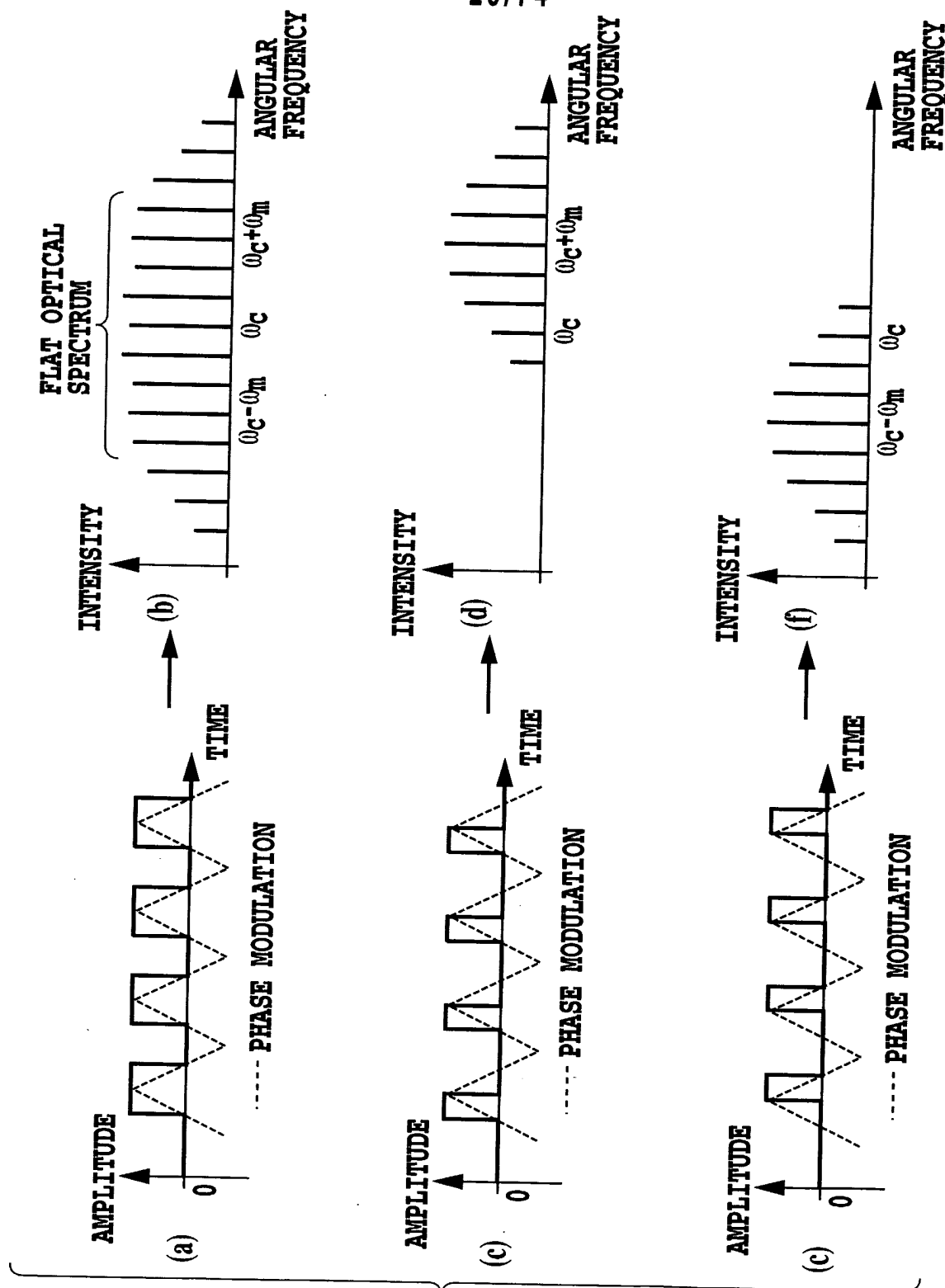


FIG.29

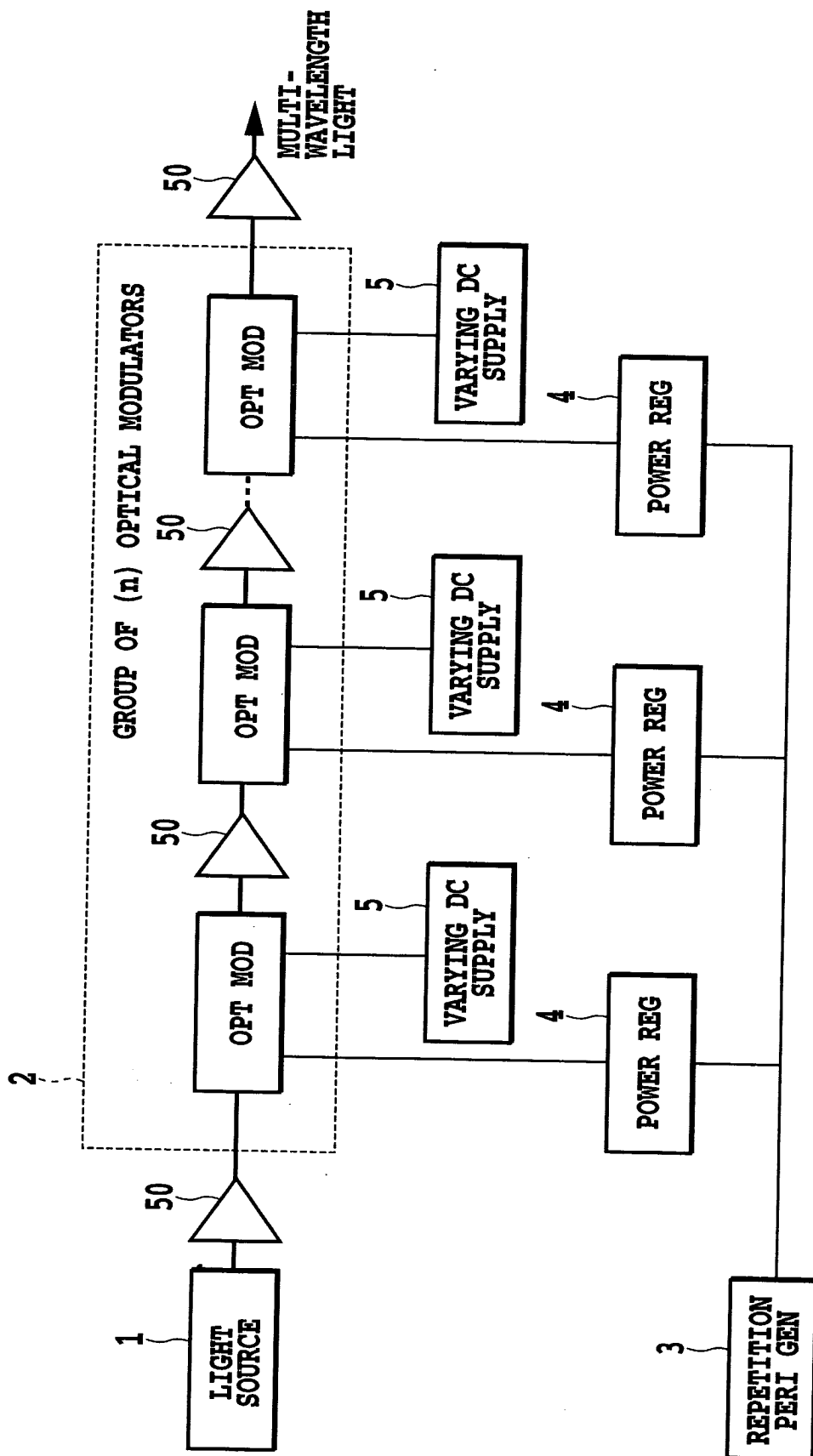


FIG.30

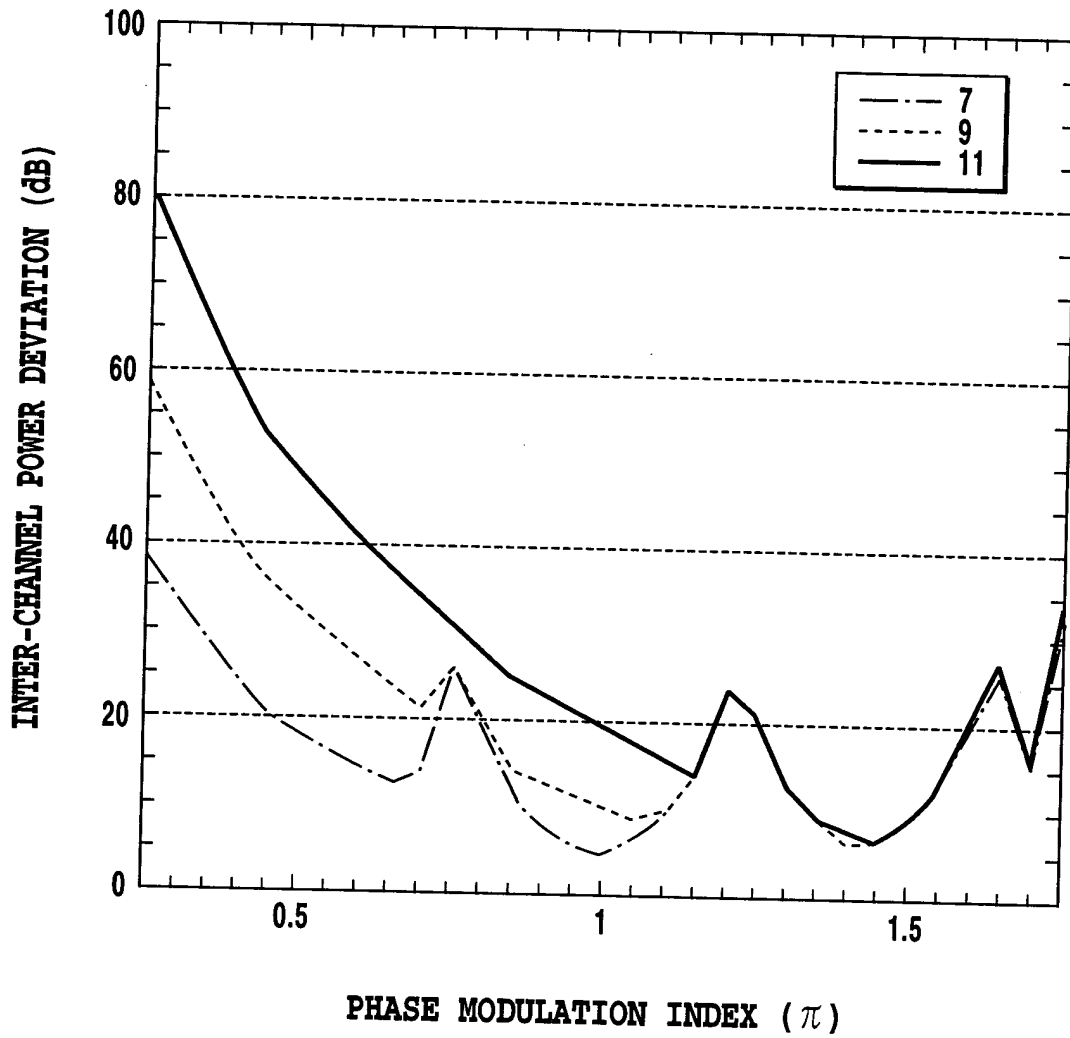
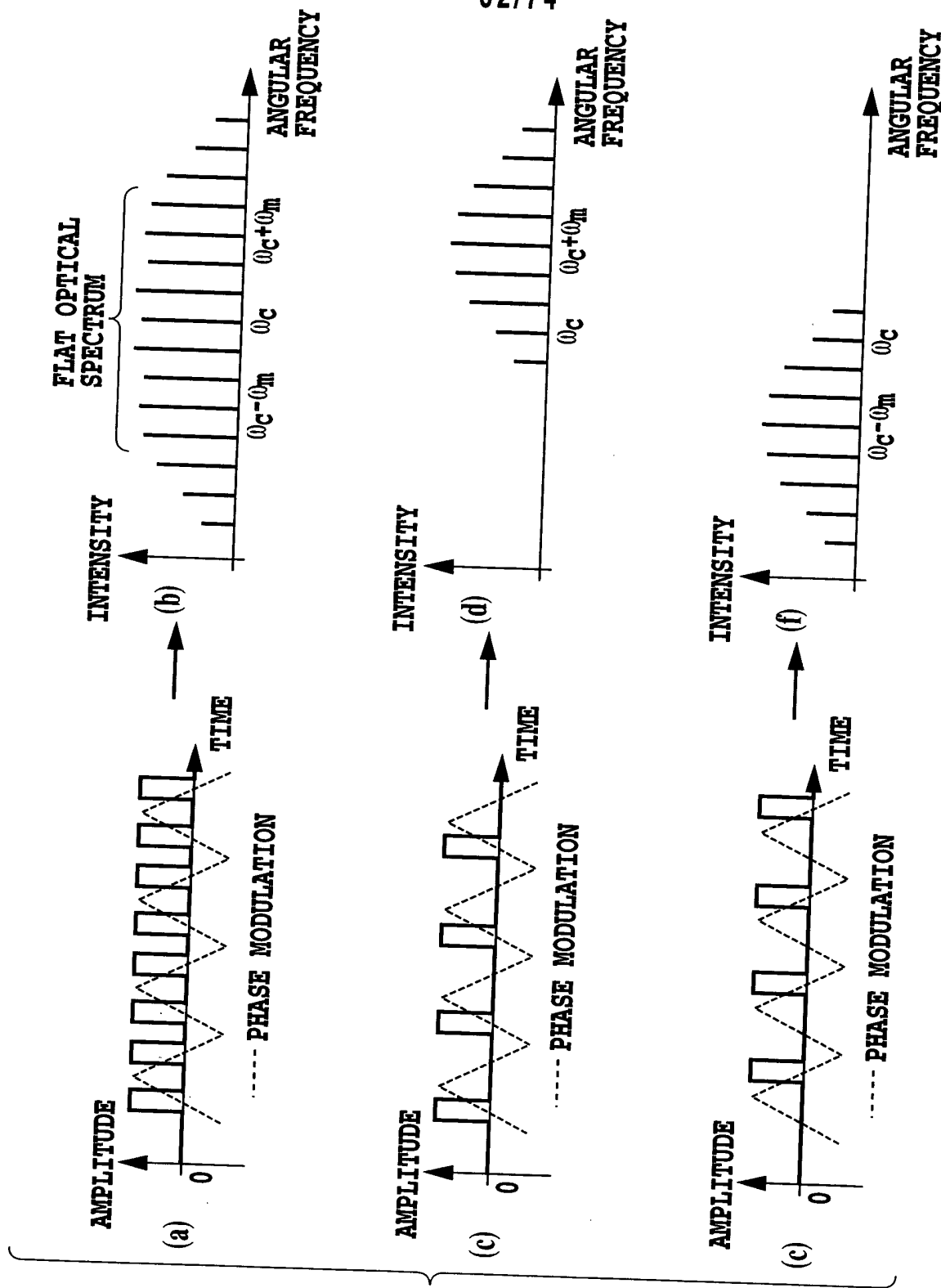


FIG.31

FIG.32



33/74

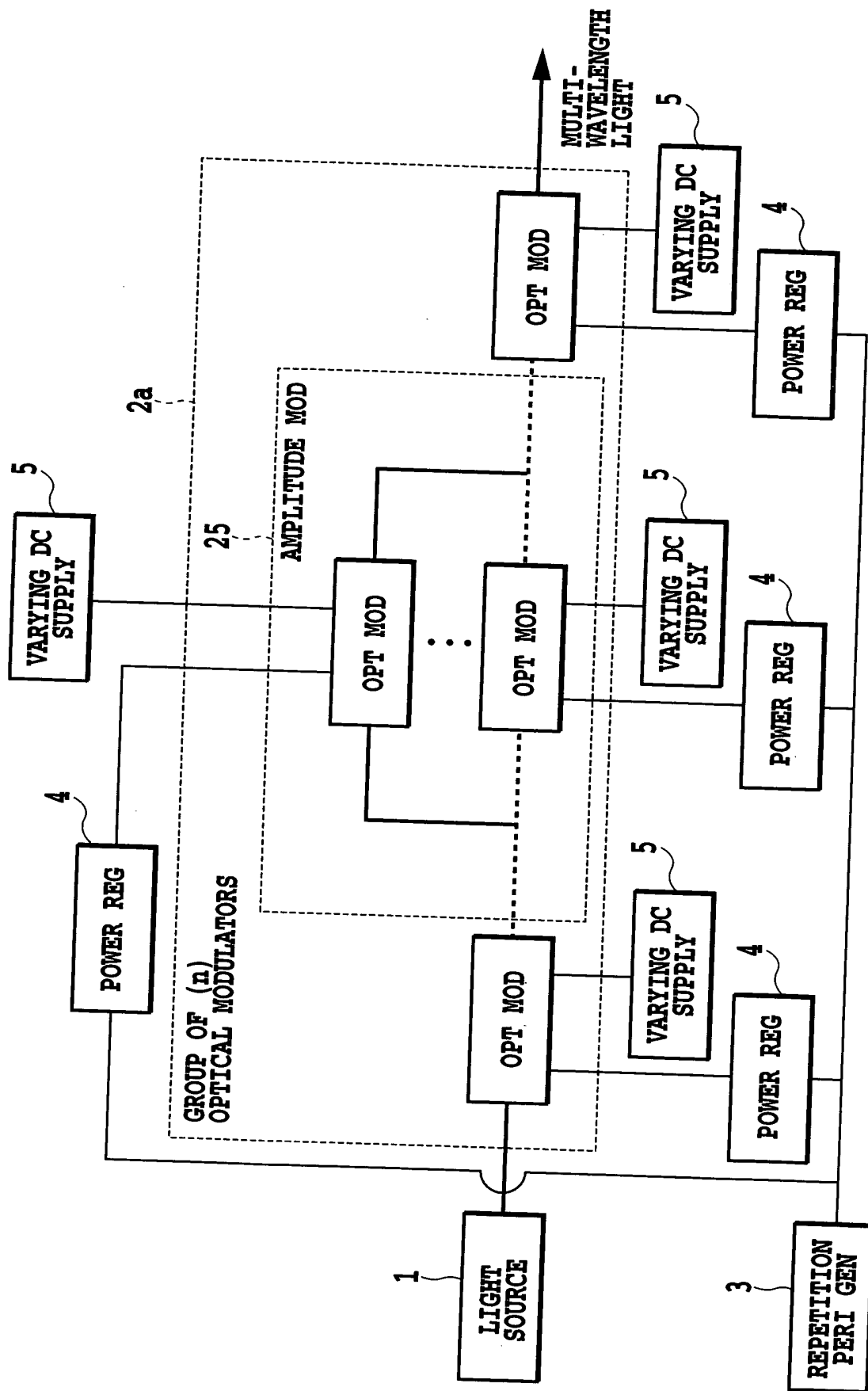
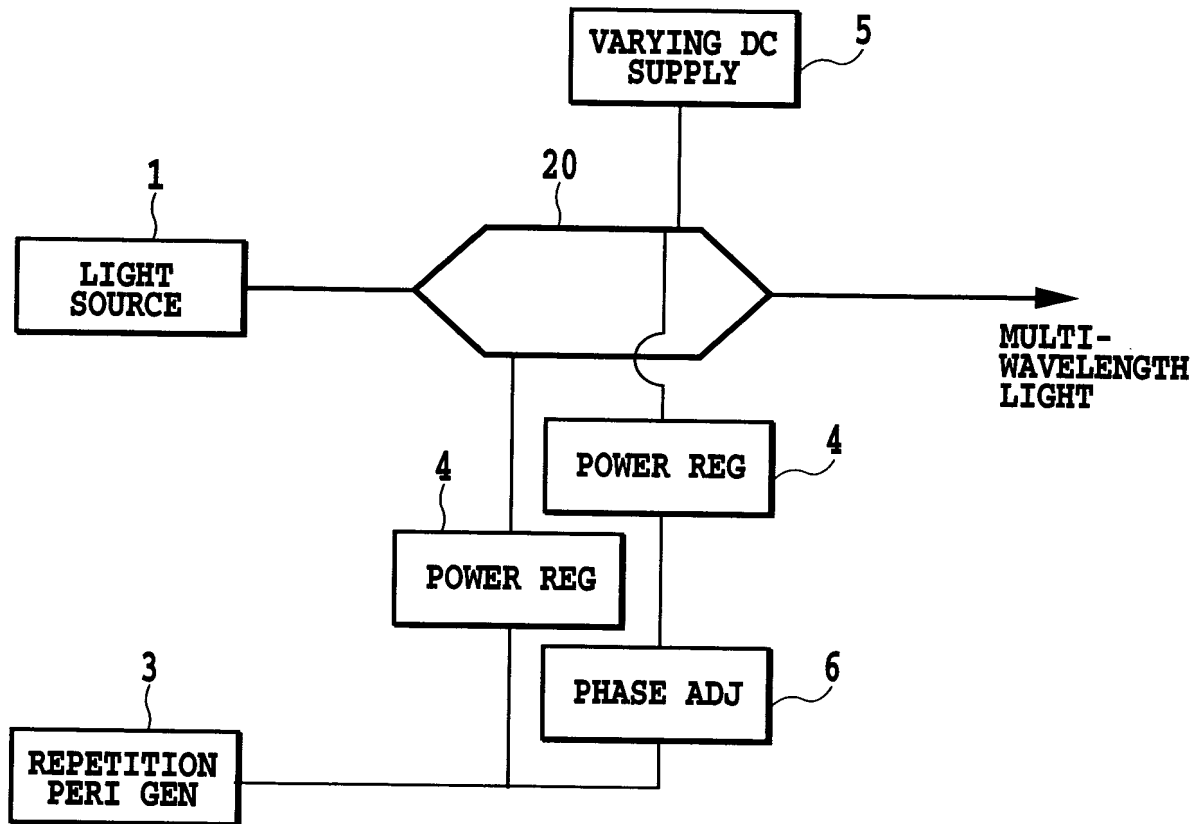


FIG.33



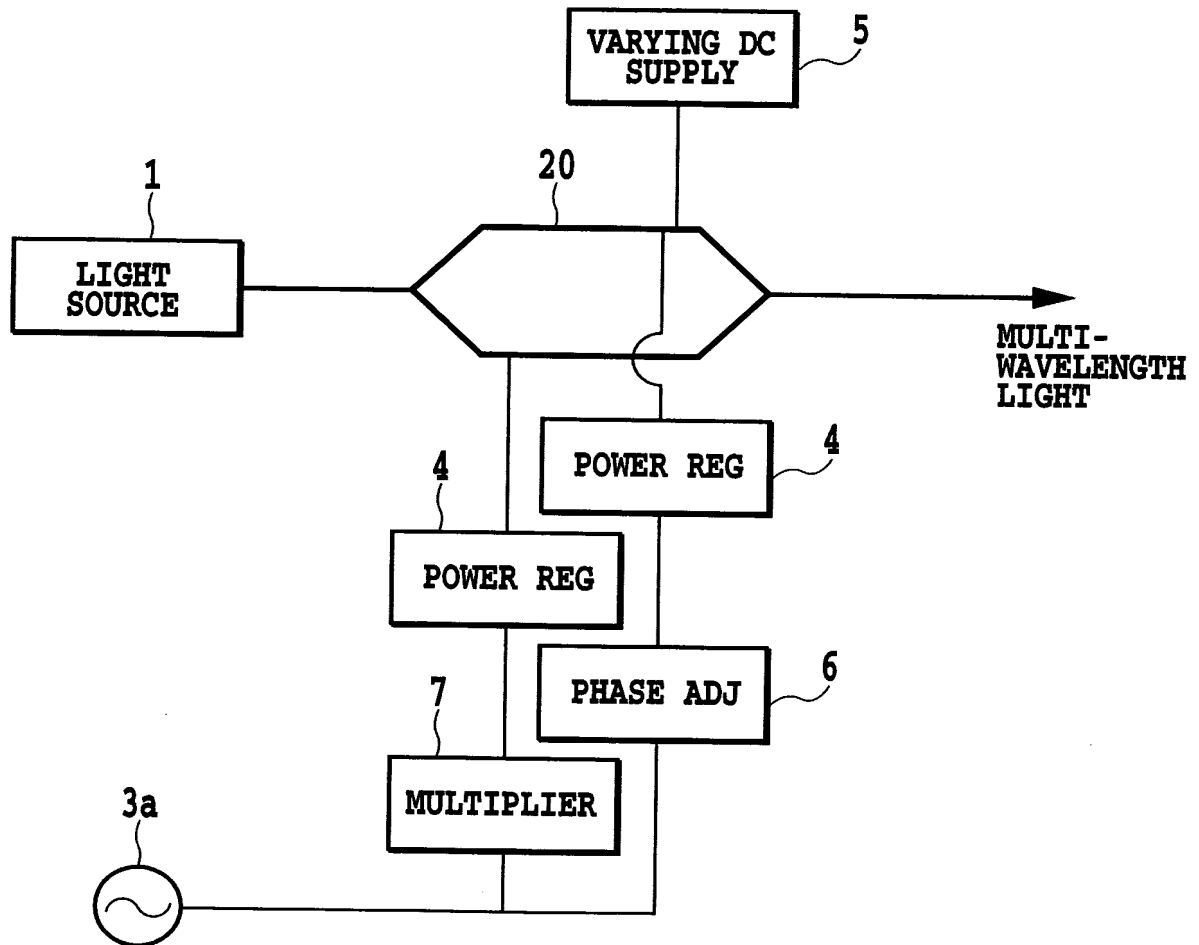


FIG.35

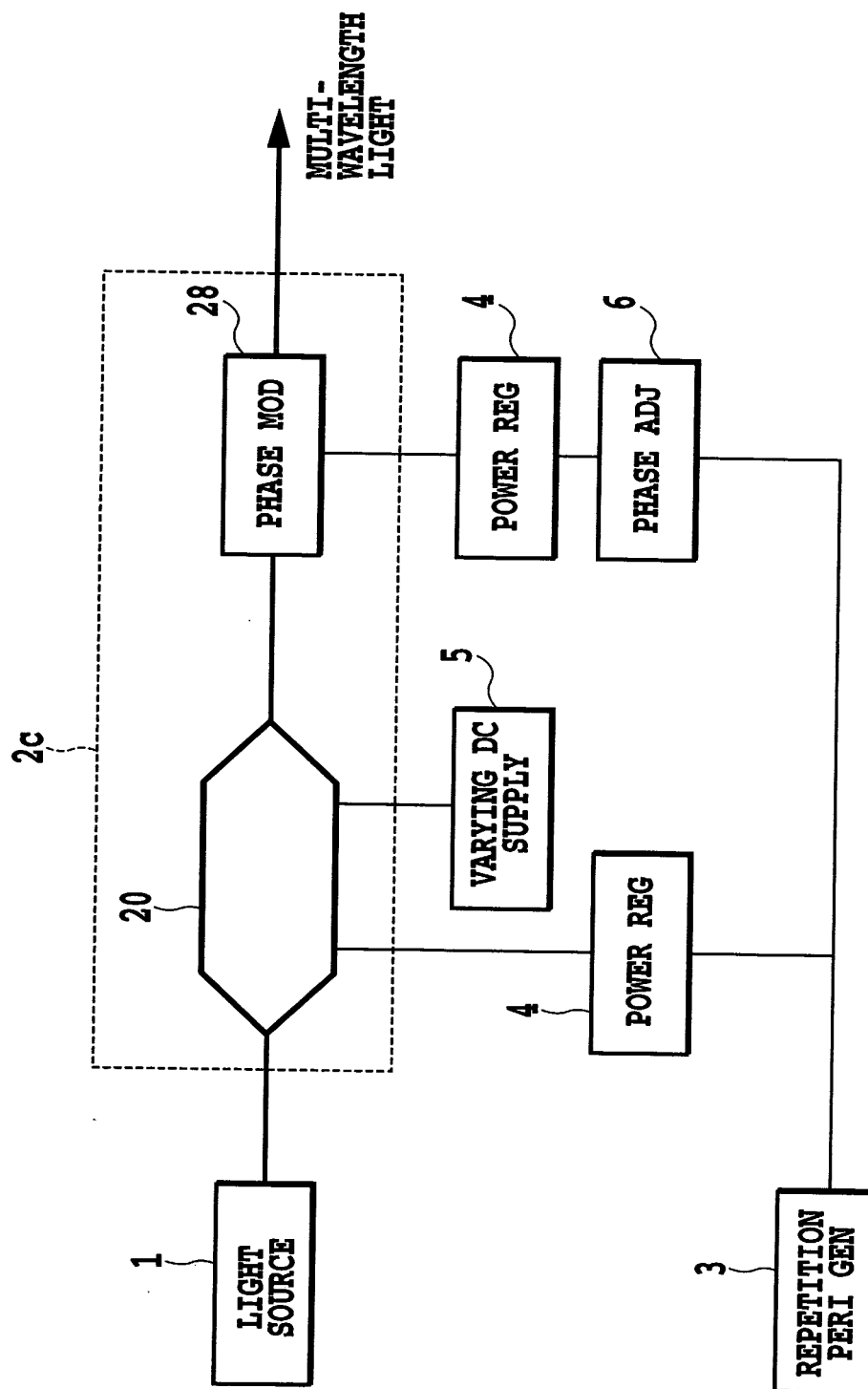
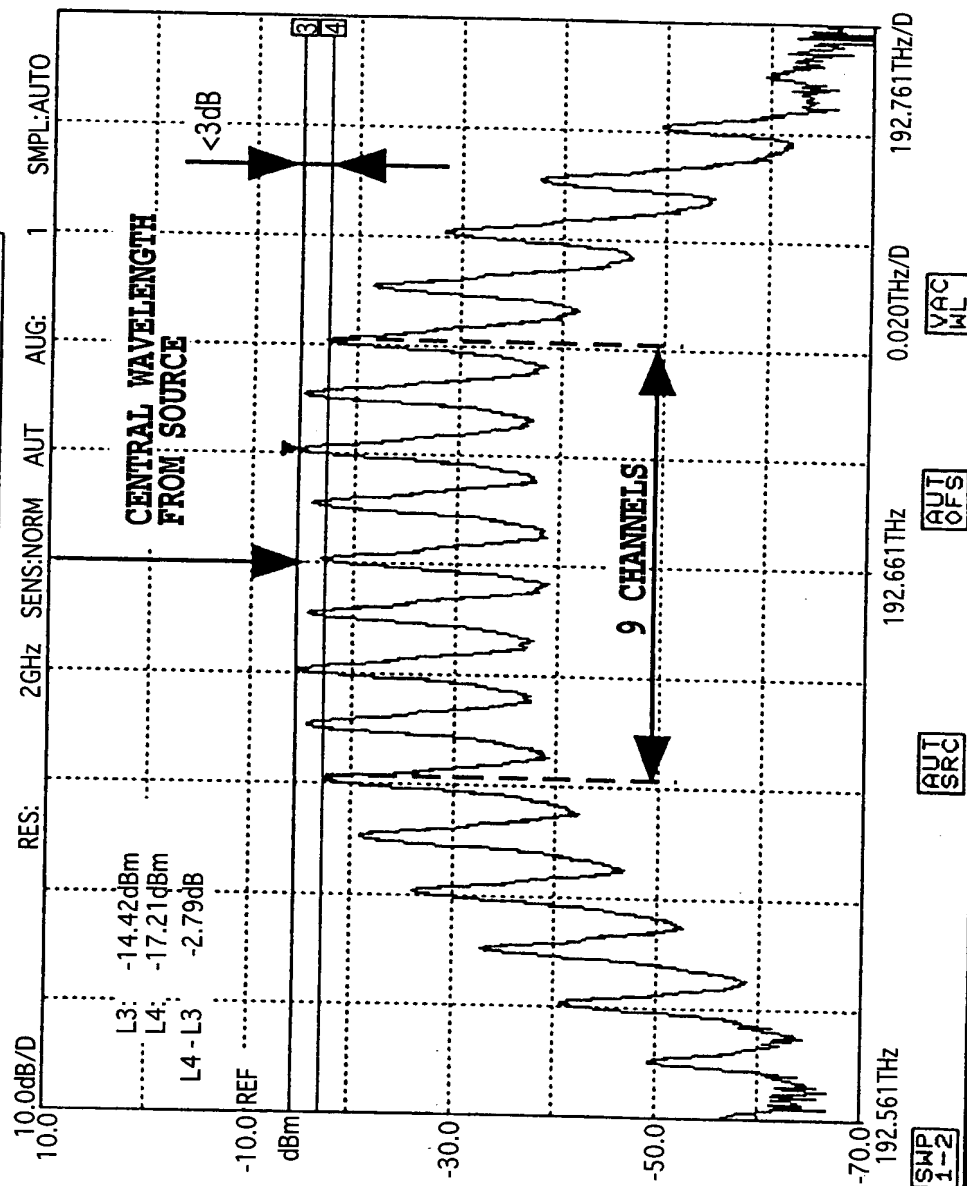


FIG.36

2000 Apr 04 15:30

$\nabla$ :192.682THz    -14.31dBm     $\nabla$ - $\nabla$ n:

	A:FIX	/BLK	B:WRITE	/BLK	C:FIX	/BLK
$\nabla$						
$\nabla$						
$\nabla$						



**FIG. 37**

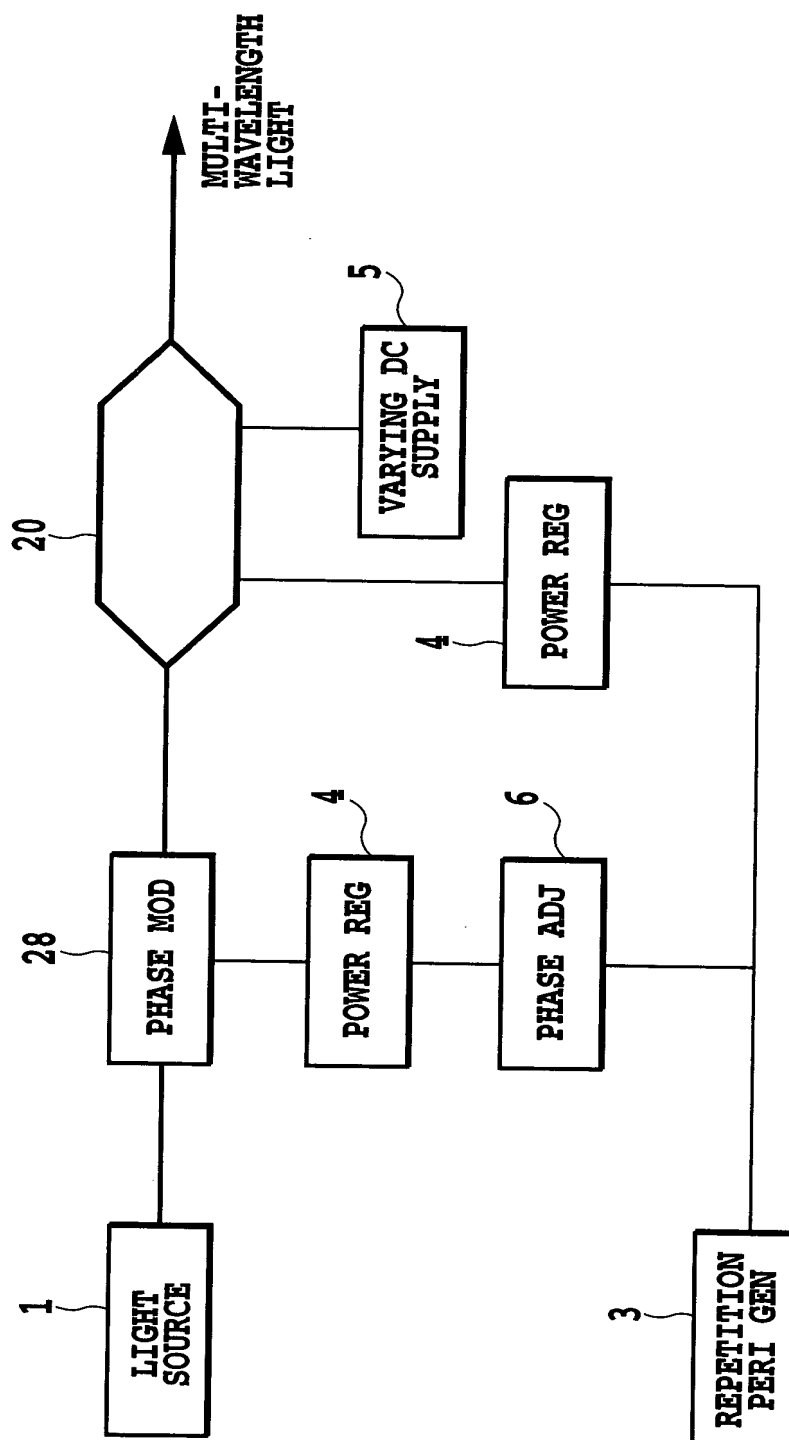


FIG.38

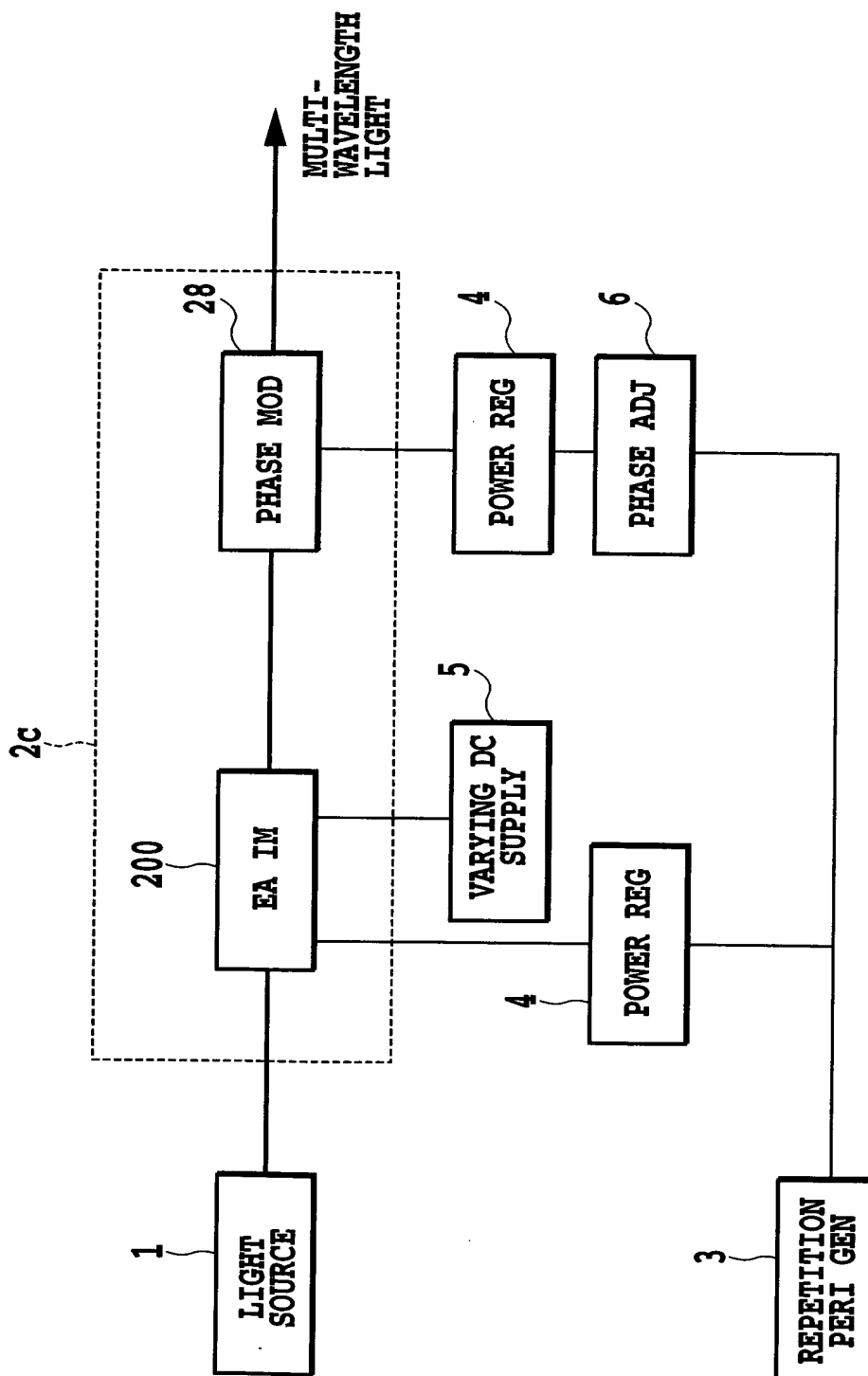


FIG.39

1090/0-ET900660

40/74

# EXPERIMENTAL RESULT USING EA IM

2000 Apr 07 14:33

A:FIX /BLK  
B:WRITE /DSF  
C:FIX /BLK

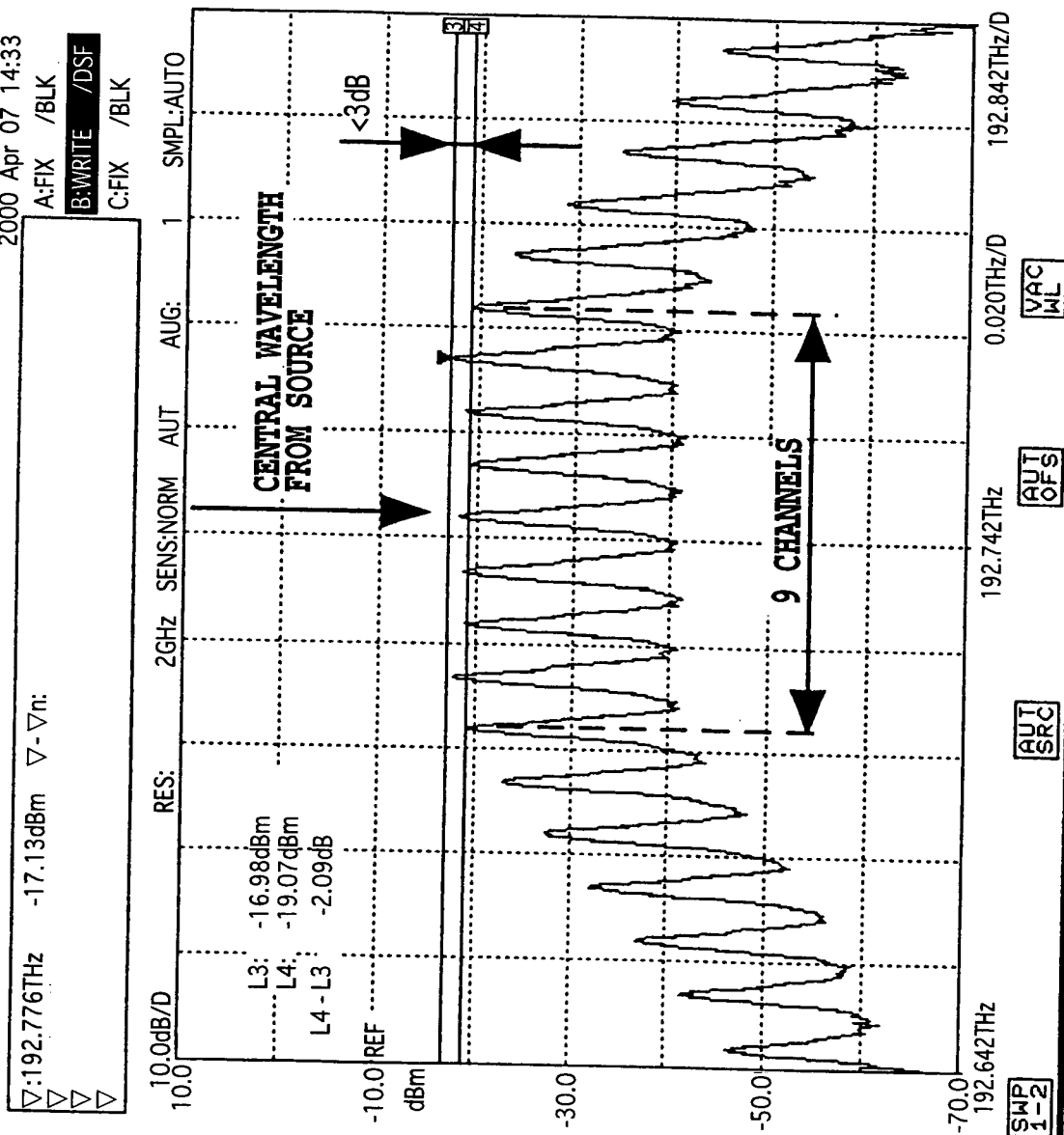


FIG.40

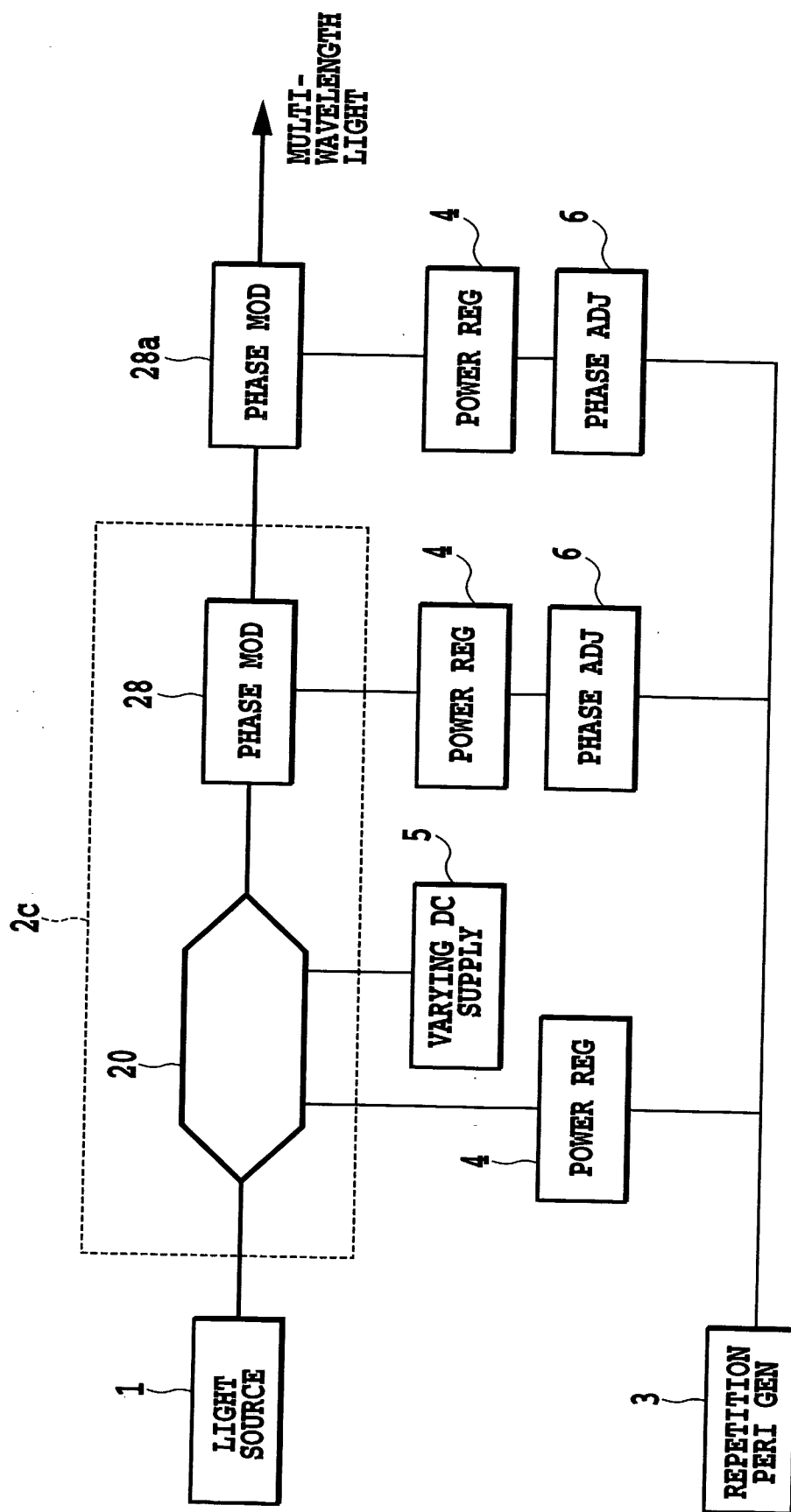


FIG.41

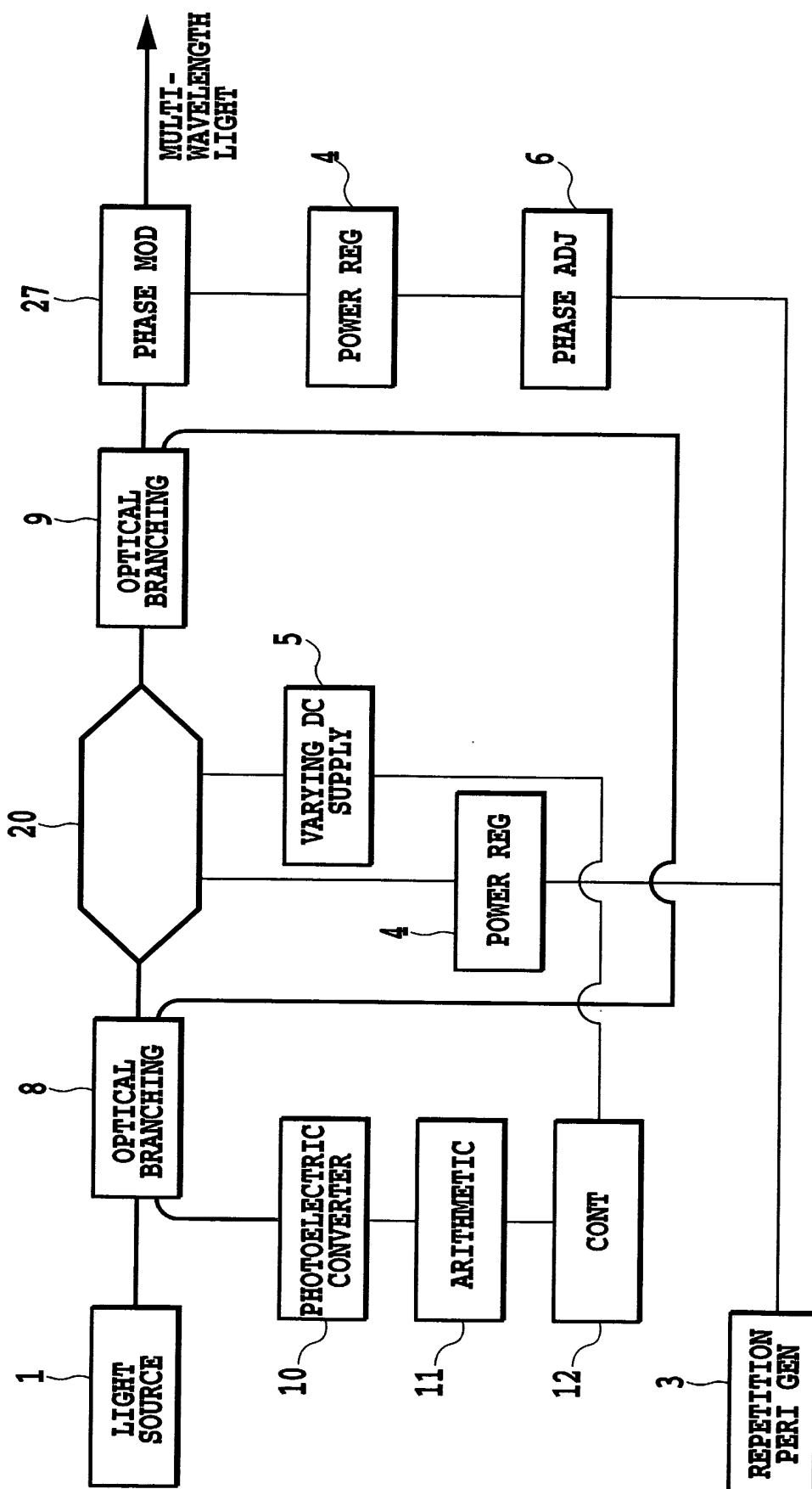


FIG.42



44/74

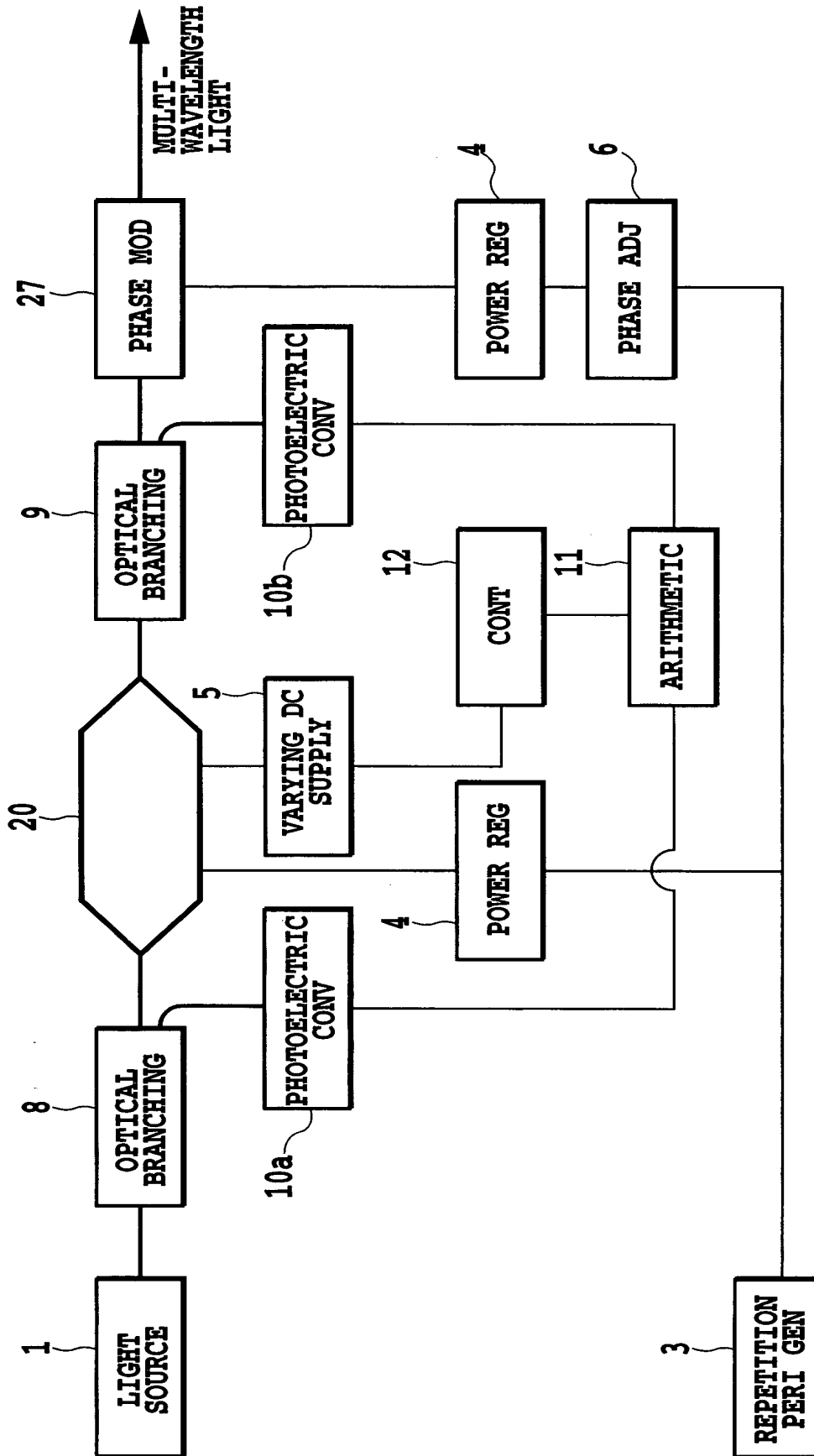


FIG.44

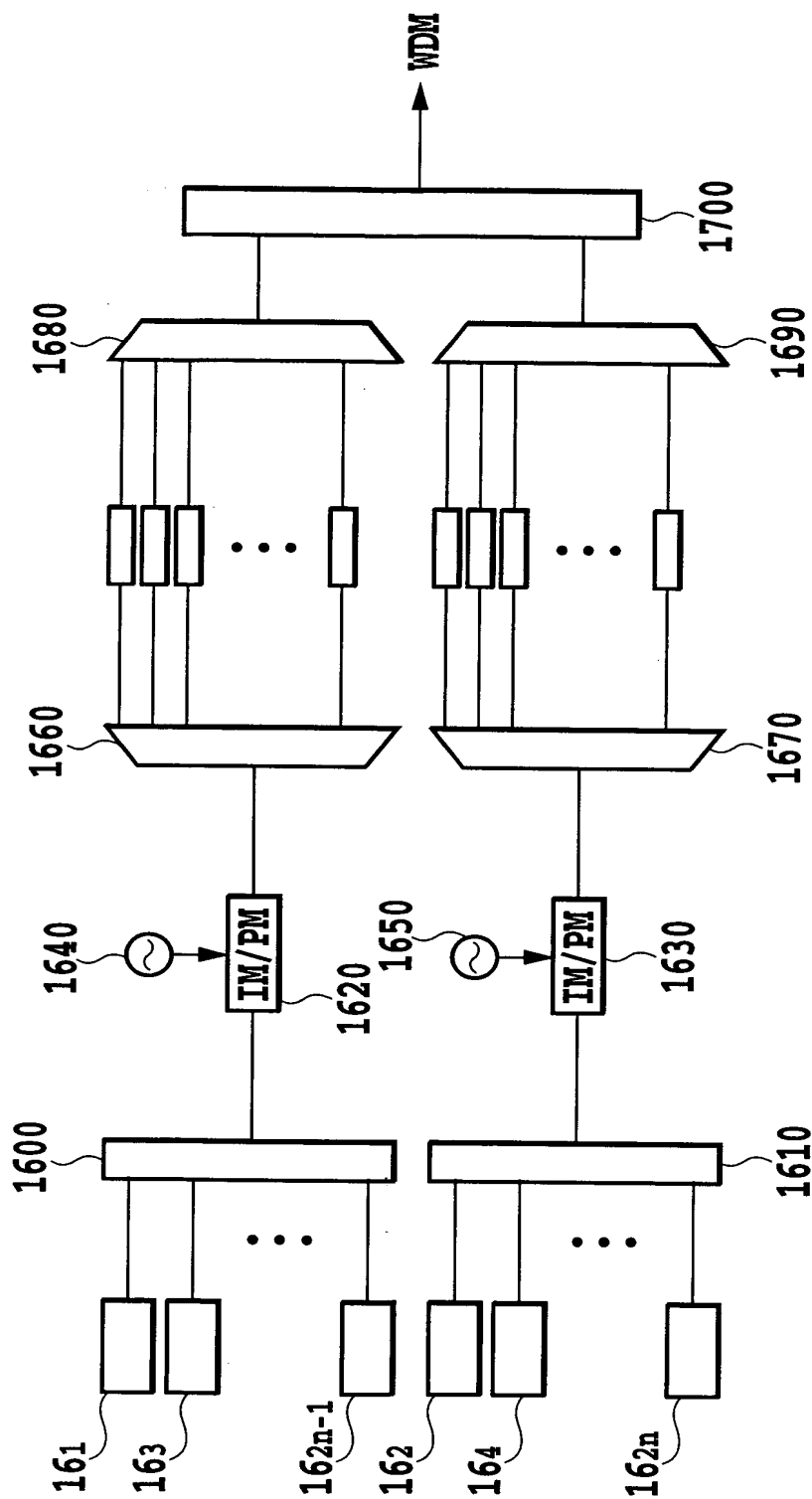


FIG. 45

46/74

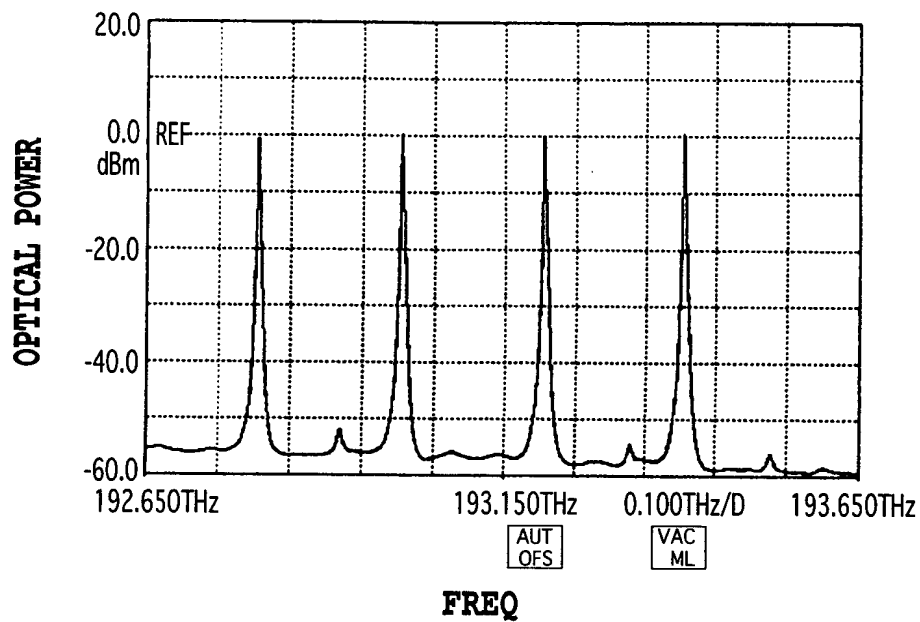


FIG.46A

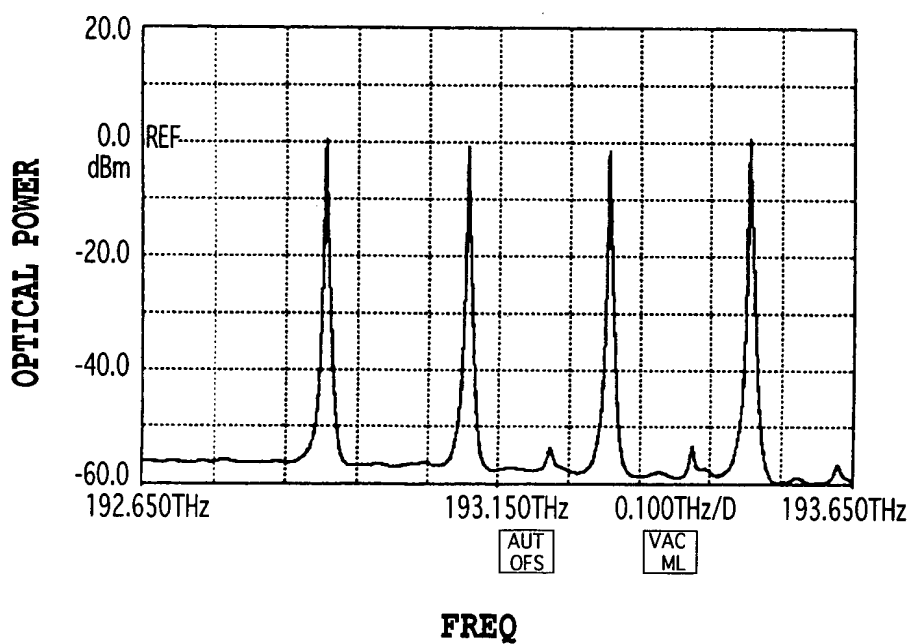


FIG.46B

FO9020"EF900660

109020 ET900660

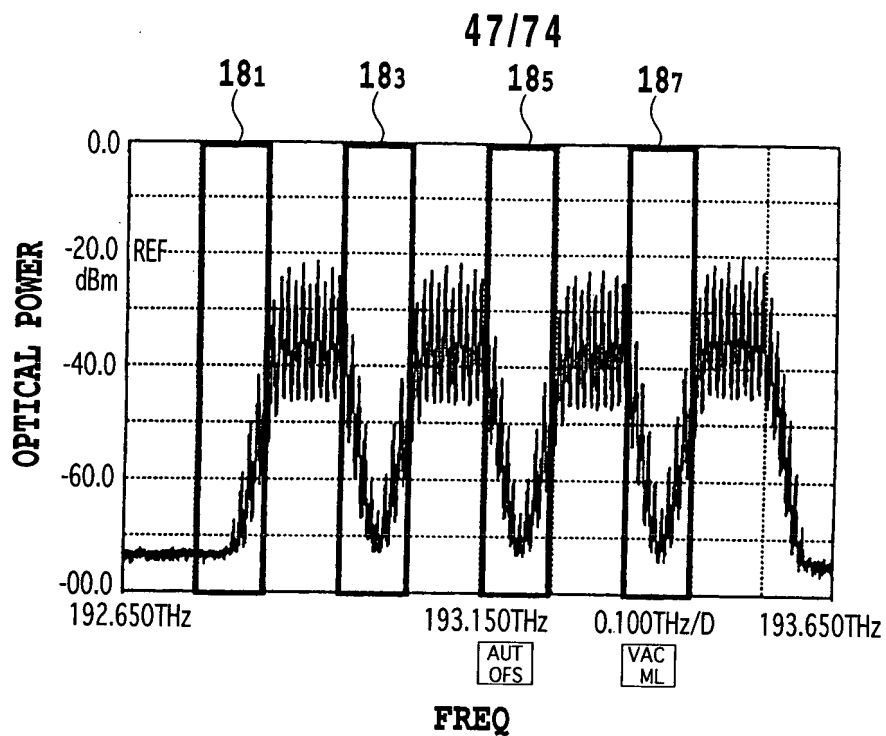


FIG.47A

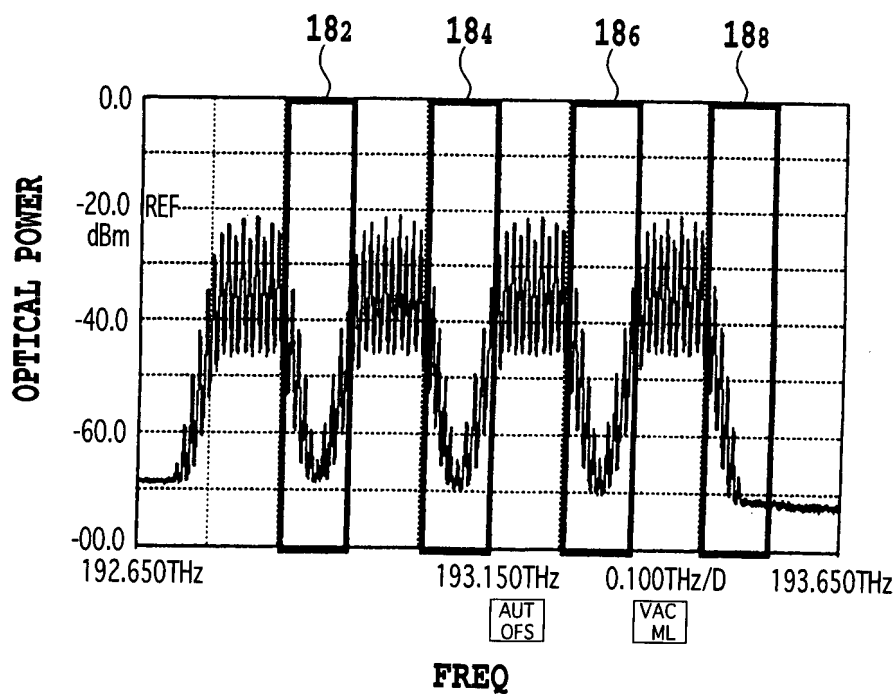


FIG.47B

48/74

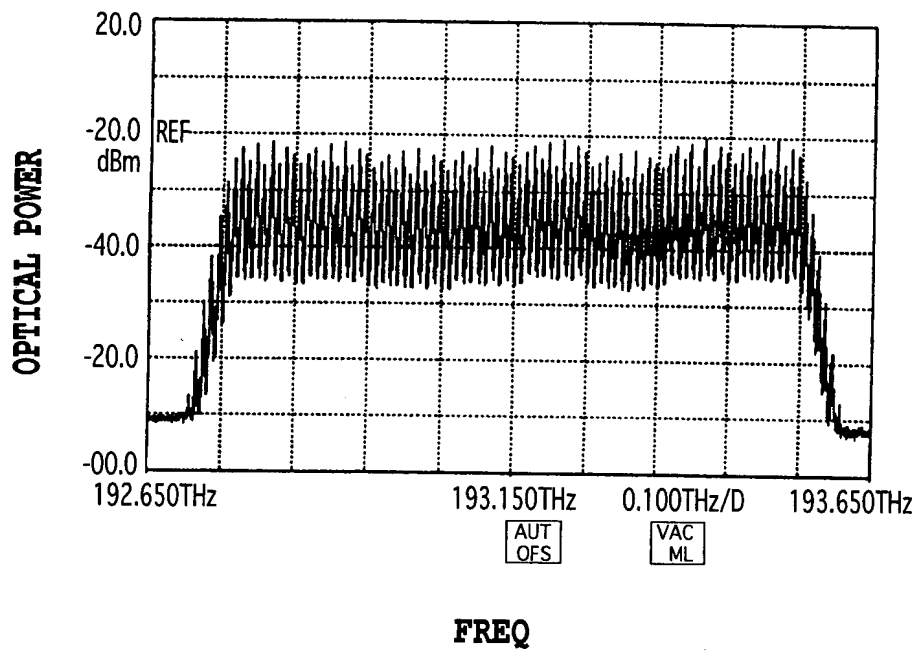
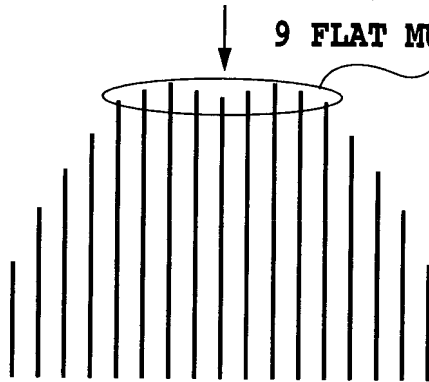


FIG.48

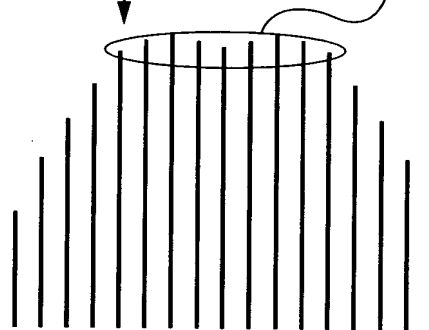
WAVELENGTHS OF  
INCIDENT LIGHTS TO  
FIRST MODULATING SECTION

9 FLAT MULTI-WAVELENGTH SIGNALS



USELESS WAVELENGTHS

9 FLAT MULTI-WAVELENGTH SIGNALS



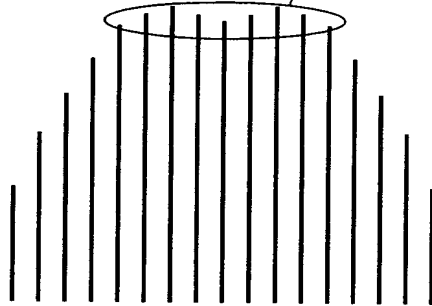
WAVELENGTHS OF  
INCIDENT LIGHTS TO  
SECOND MODULATING SECTION

FIG.49A

09900613 070601

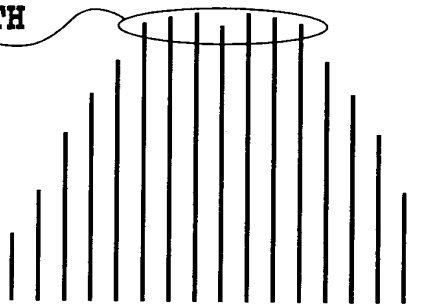
WAVELENGTHS OF  
INCIDENT LIGHTS TO  
FIRST MODULATING SECTION

9 FLAT MULTI-WAVELENGTH SIGNALS



NO USELESS WAVELENGTHS

7 FLAT  
MULTI-WAVELENGTH  
SIGNALS



WAVELENGTHS OF  
INCIDENT LIGHTS TO  
SECOND MODULATING SECTION

FIG.49B

0990613-070601  
109070 ET900660

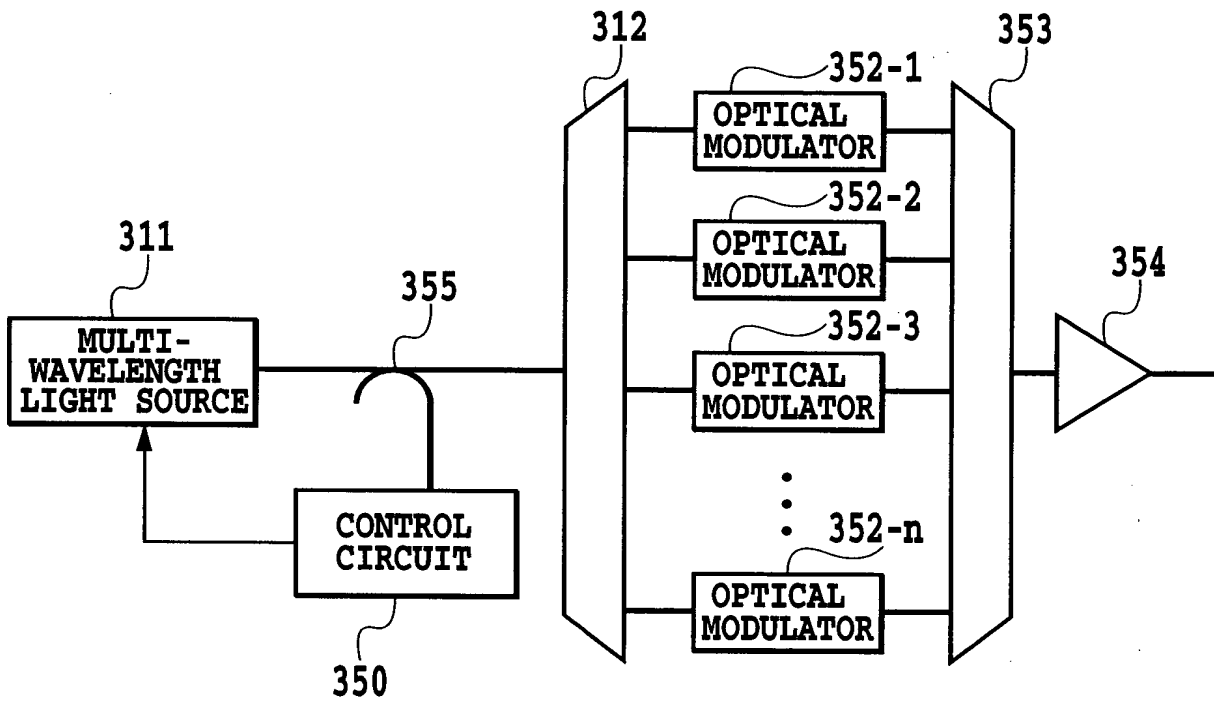


FIG.50

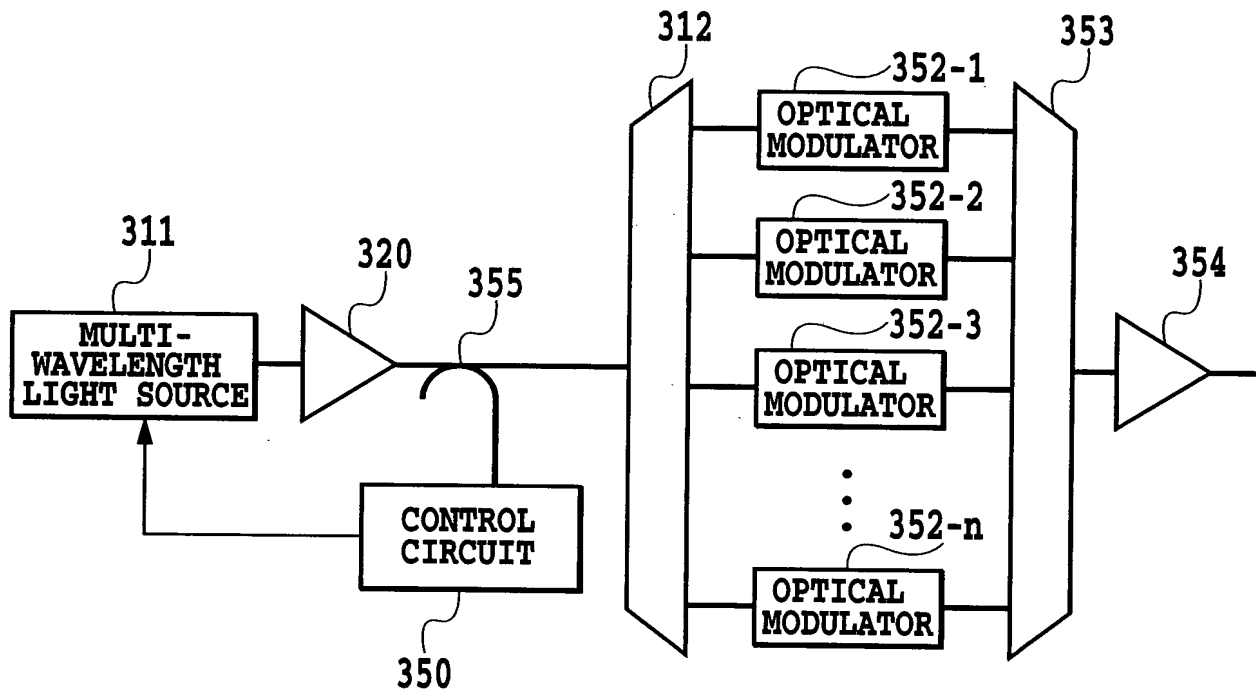


FIG.51

WAVELENGTH-MULTIPLEXED TRANSMISSION SYSTEM USING  
COHERENT MULTI-WAVELENGTH SIGNAL GENERATING APPARATUS

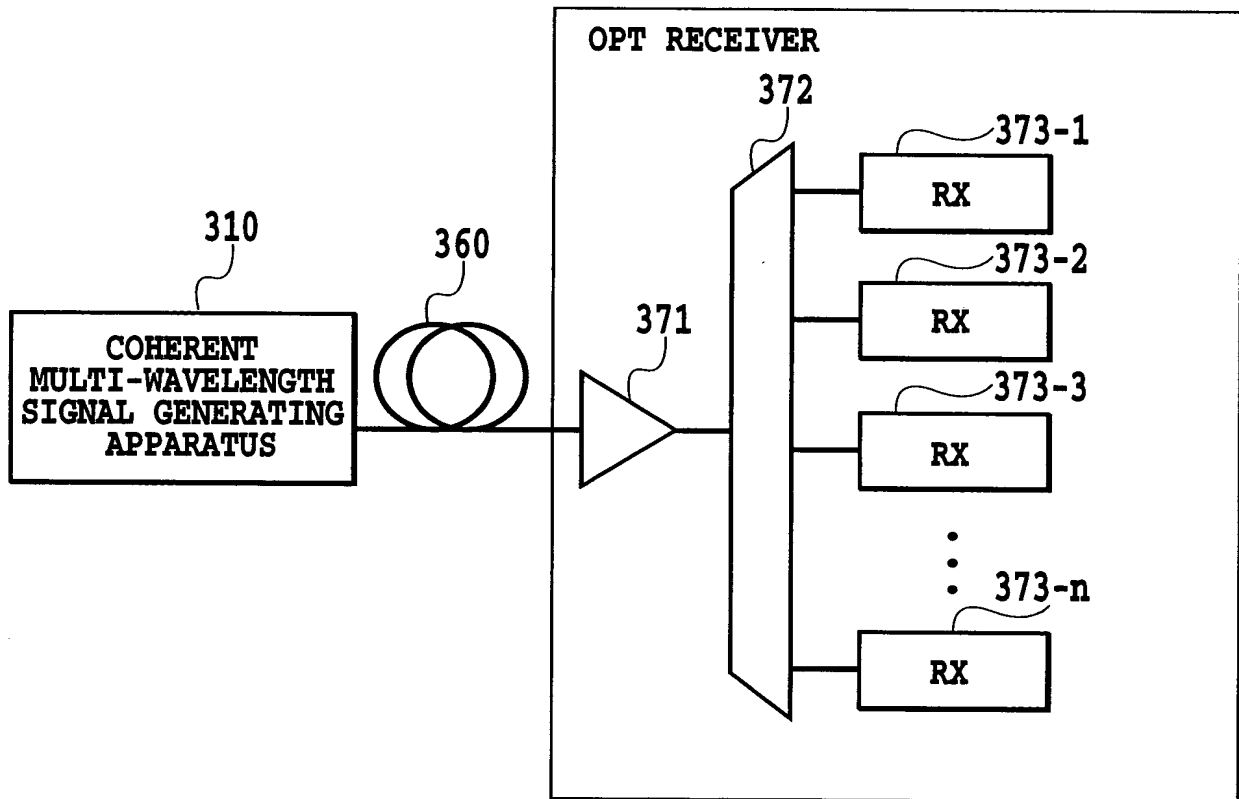


FIG.52

EXAMPLE OF FIRST CONFIGURATION OF  
MULTI-WAVELENGTH LIGHT SOURCE

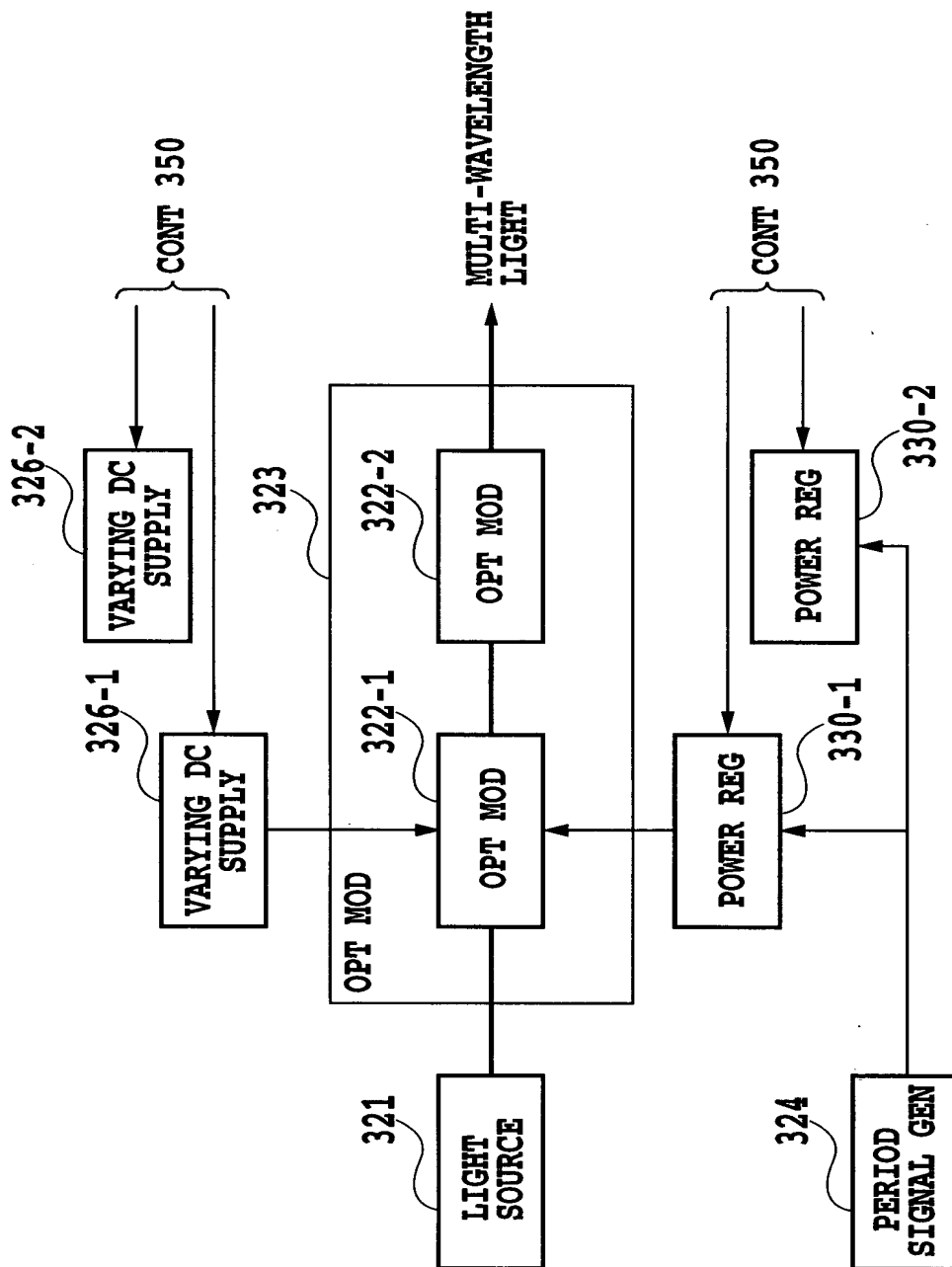
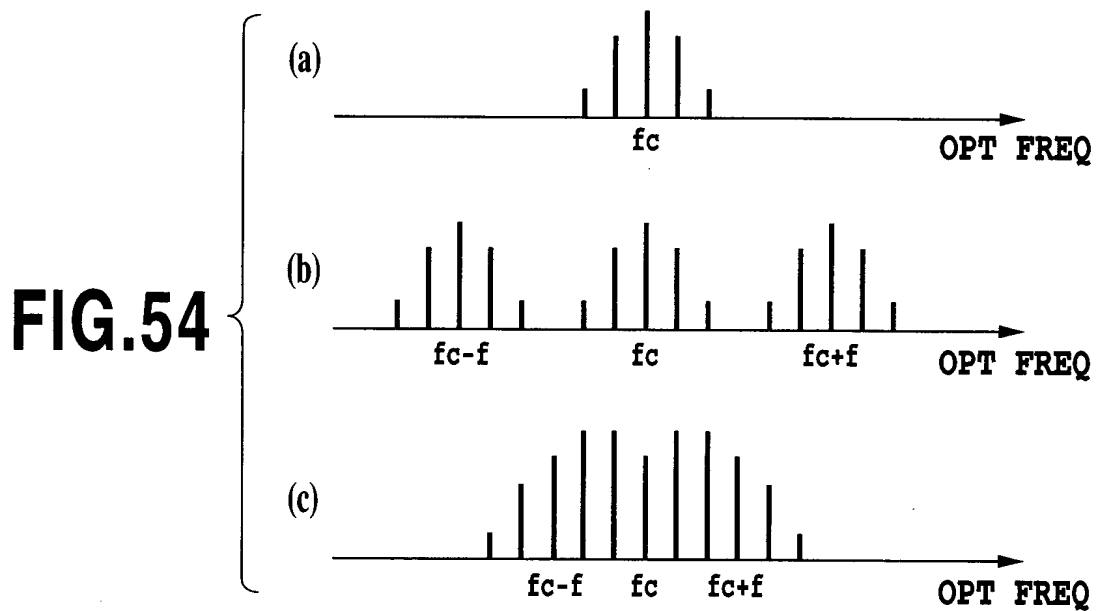


FIG.53

FIG. 53 PRINCIPLE OF GENERATION OF  
MULTI-WAVELENGTH LIGHT FROM  
MULTI-WAVELENGTH LIGHT SOURCE



0900613.070601  
T09070.F1900660

SHAPE CONTROL OF OPTICAL SPECTRUM USING INTENSITY  
AND PHASE MODULATORS AS OPTICAL MODULATING SECTION

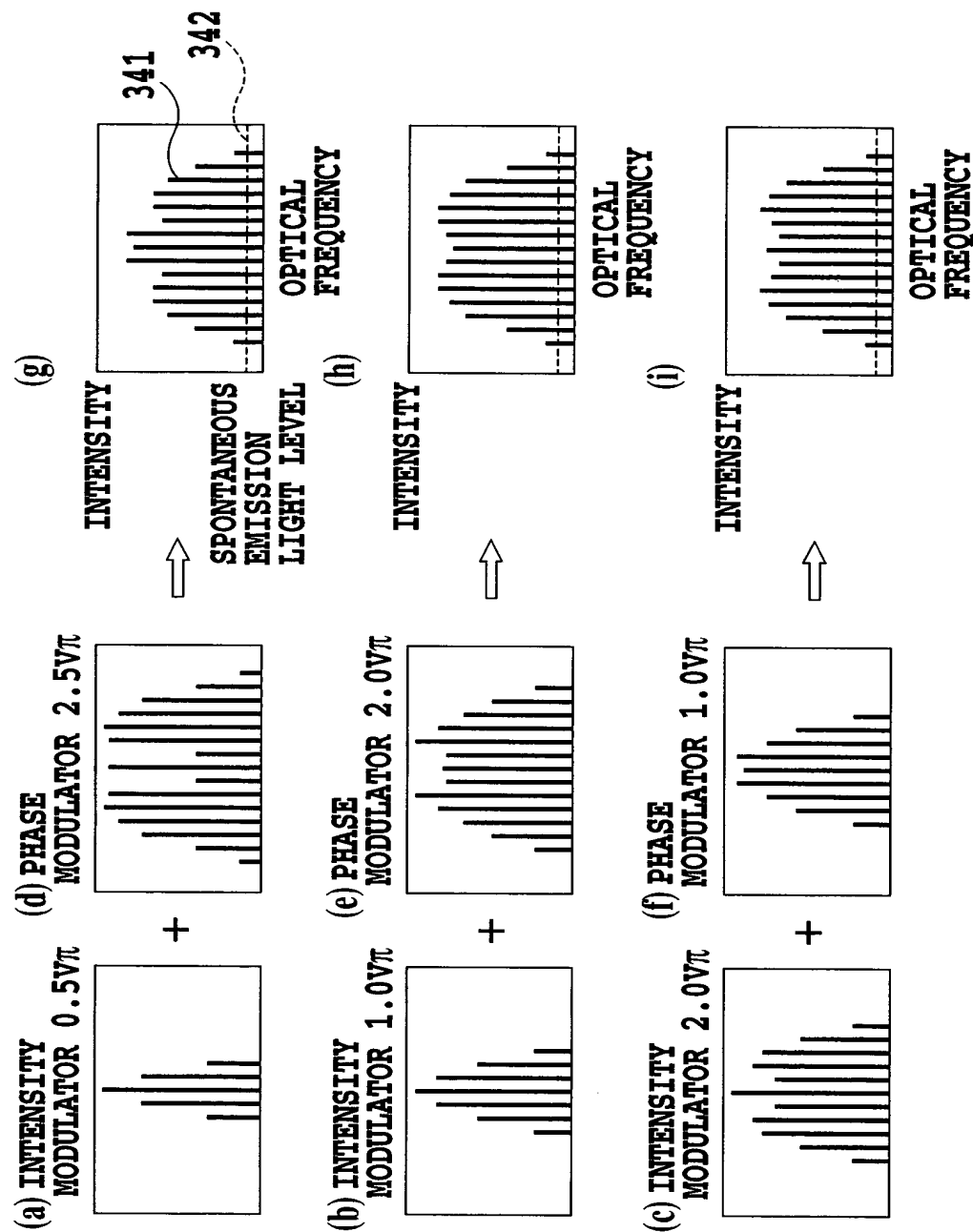


FIG.55

OPTICAL SPECTRUM OF MULTI-WAVELENGTH  
LIGHT AMPLIFIED BY OPTICAL AMPLIFIER

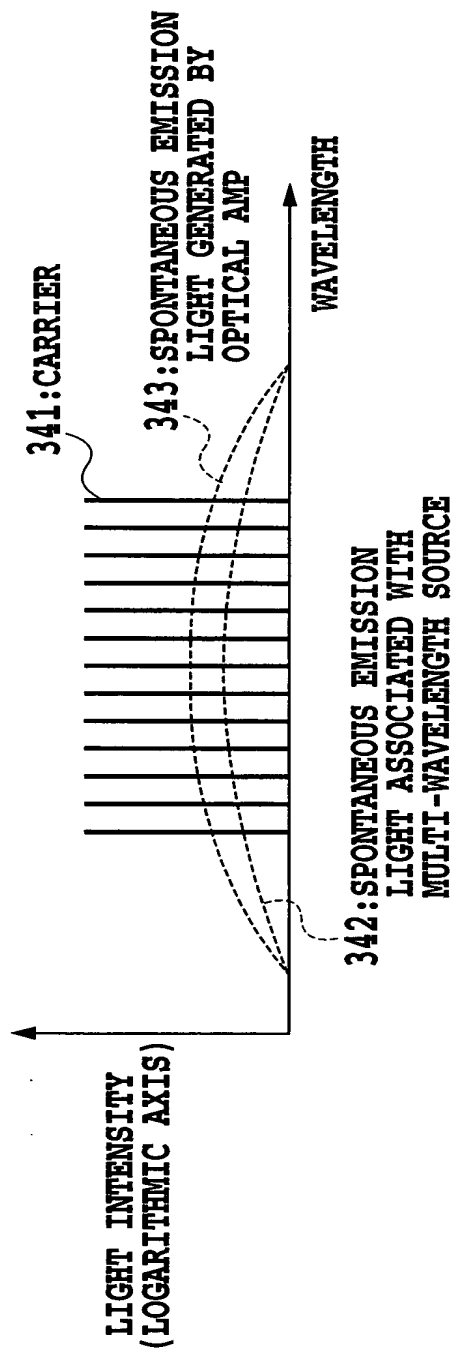


FIG.56

EXAMPLE OF SECOND CONFIGURATION OF  
MULTI-WAVELENGTH LIGHT SOURCE

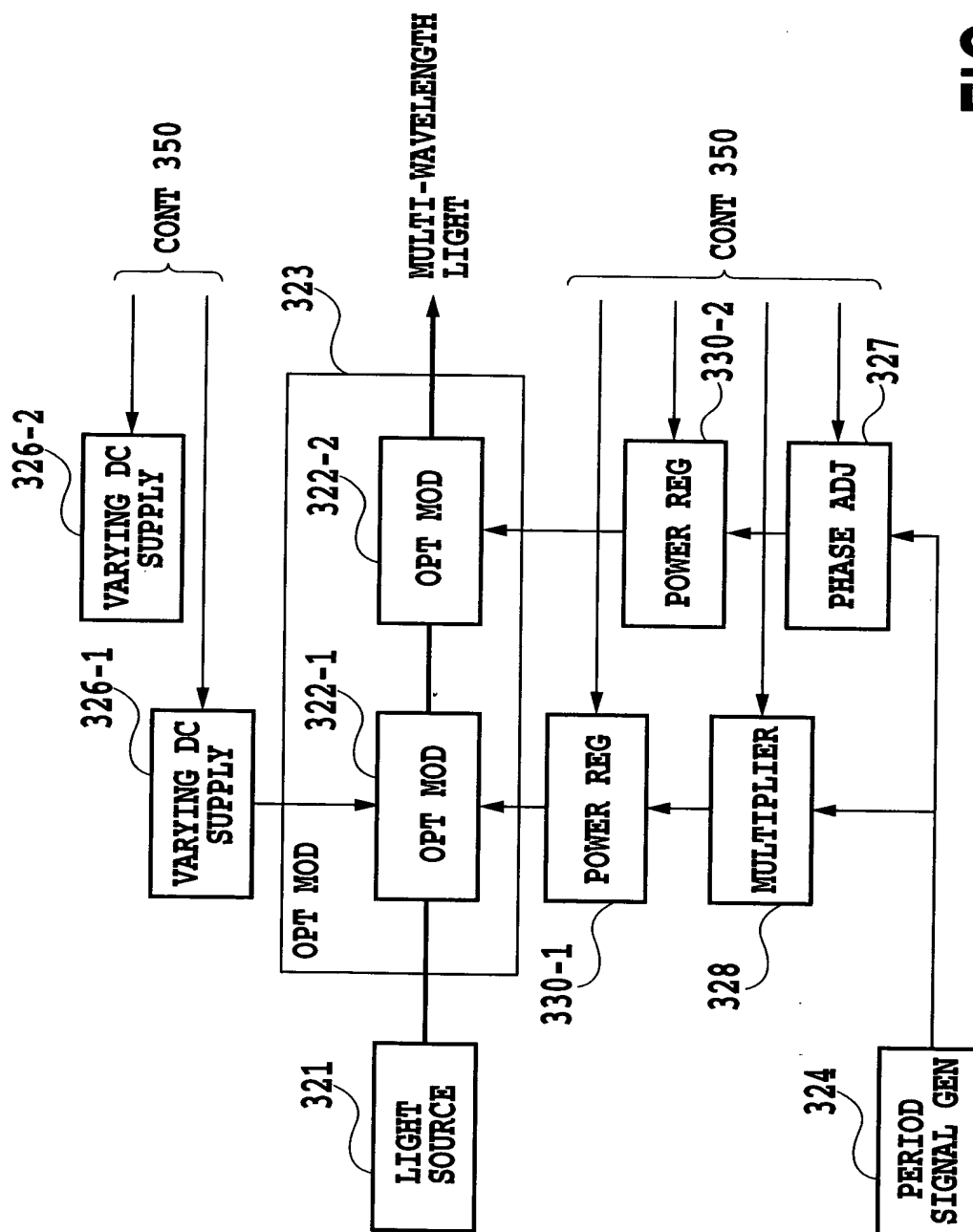


FIG. 57

SHAPE CONTROL OF OPTICAL SPECTRUM  
BY REGULATING PHASES OF PERIOD SIGNALS

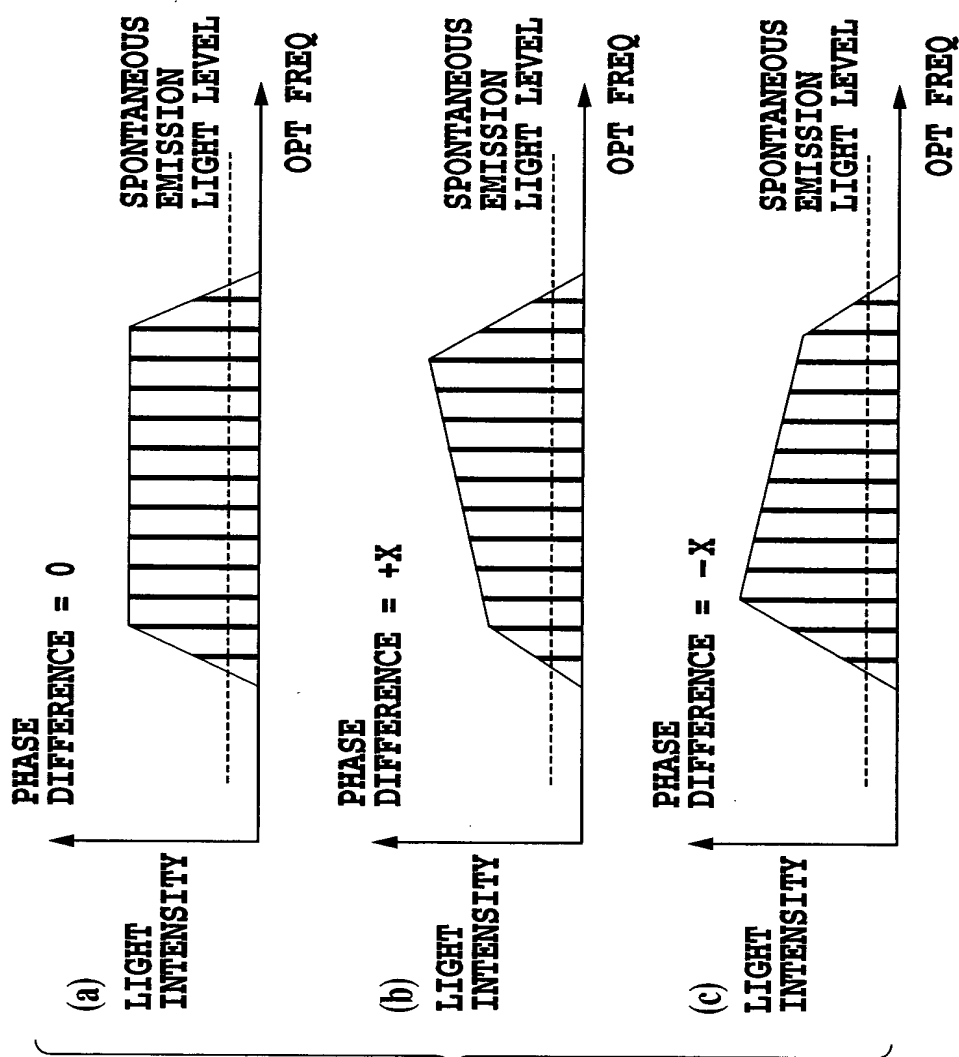


FIG.58

60/74

SHAPE CONTROL OF OPTICAL SPECTRUM  
BY REGULATING PERIOD SIGNALS

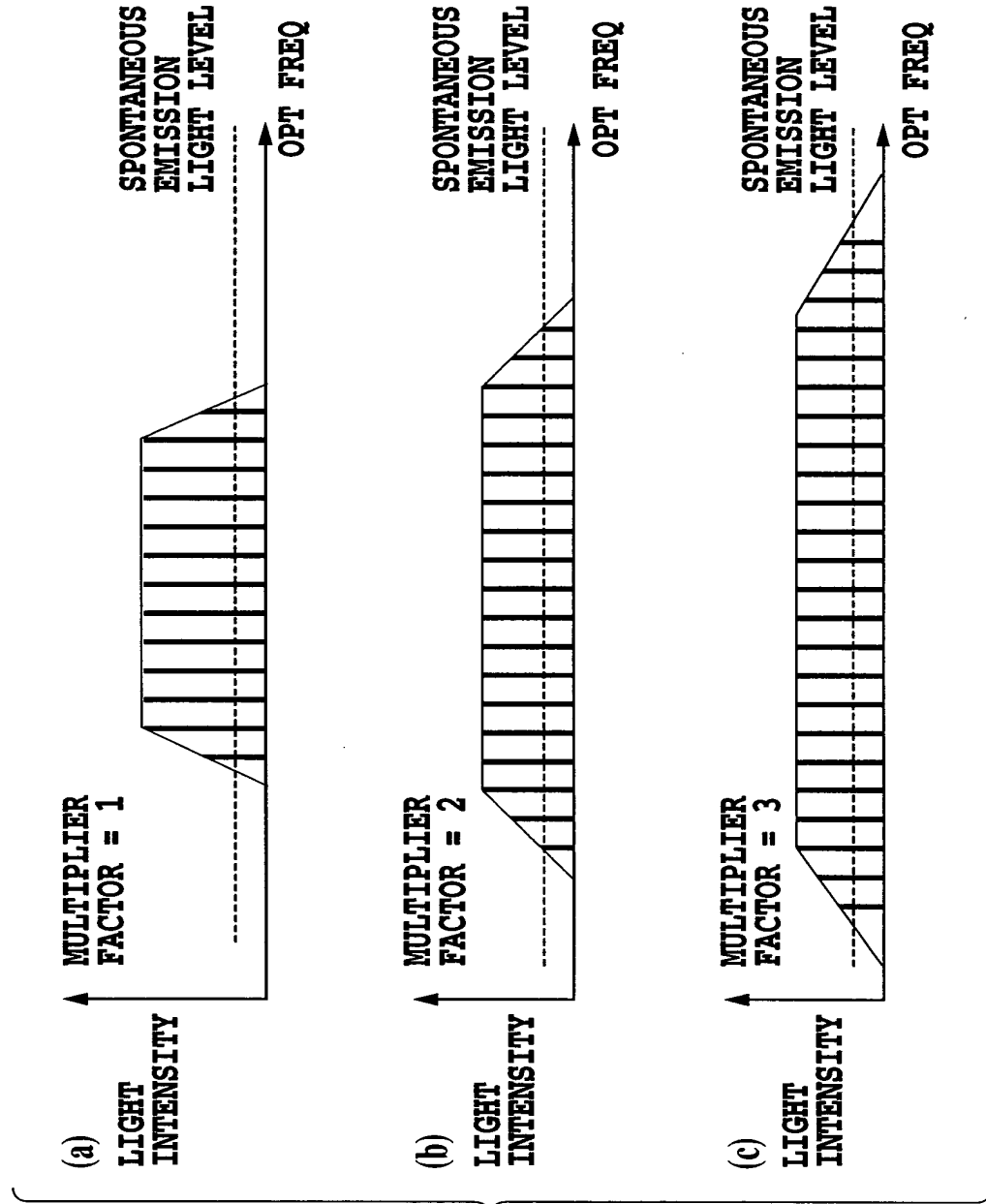


FIG.59

EXAMPLE OF THIRD CONFIGURATION OF  
MULTI-WAVELENGTH LIGHT SOURCE

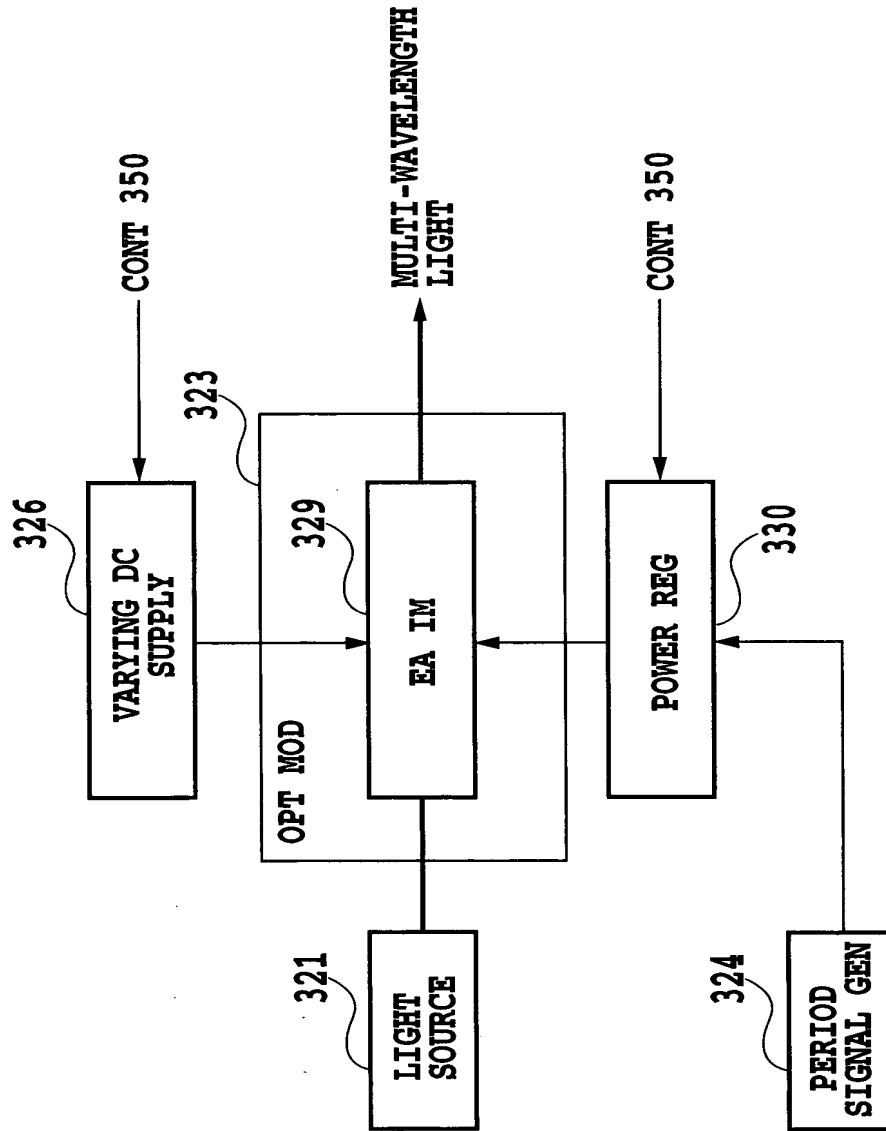


FIG. 60

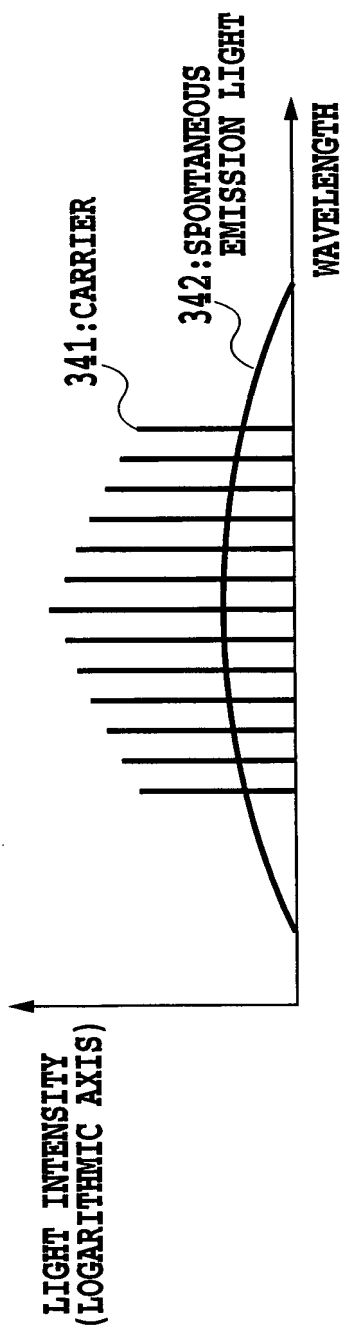


FIG.61

FOURTH EXAMPLE OF CONFIGURATION OF  
MULTI-WAVELENGTH LIGHT SOURCE

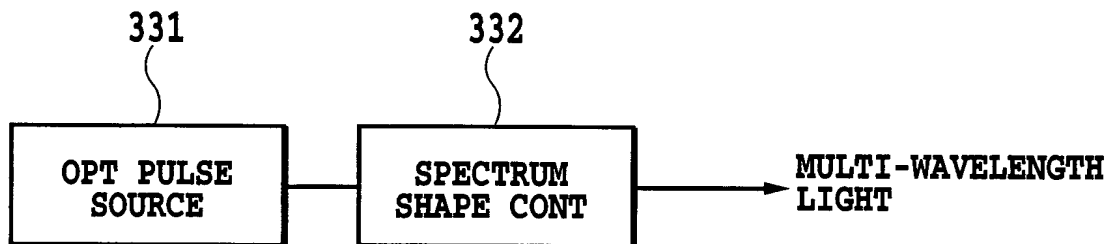


FIG.62

PRINCIPLE OF ADIABATIC COMPRESSION  
WITH DISPERSION REDUCING FIBER

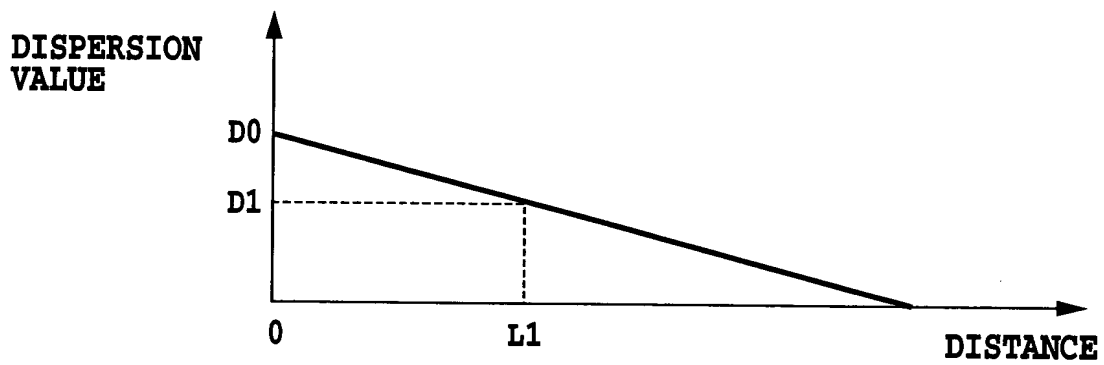
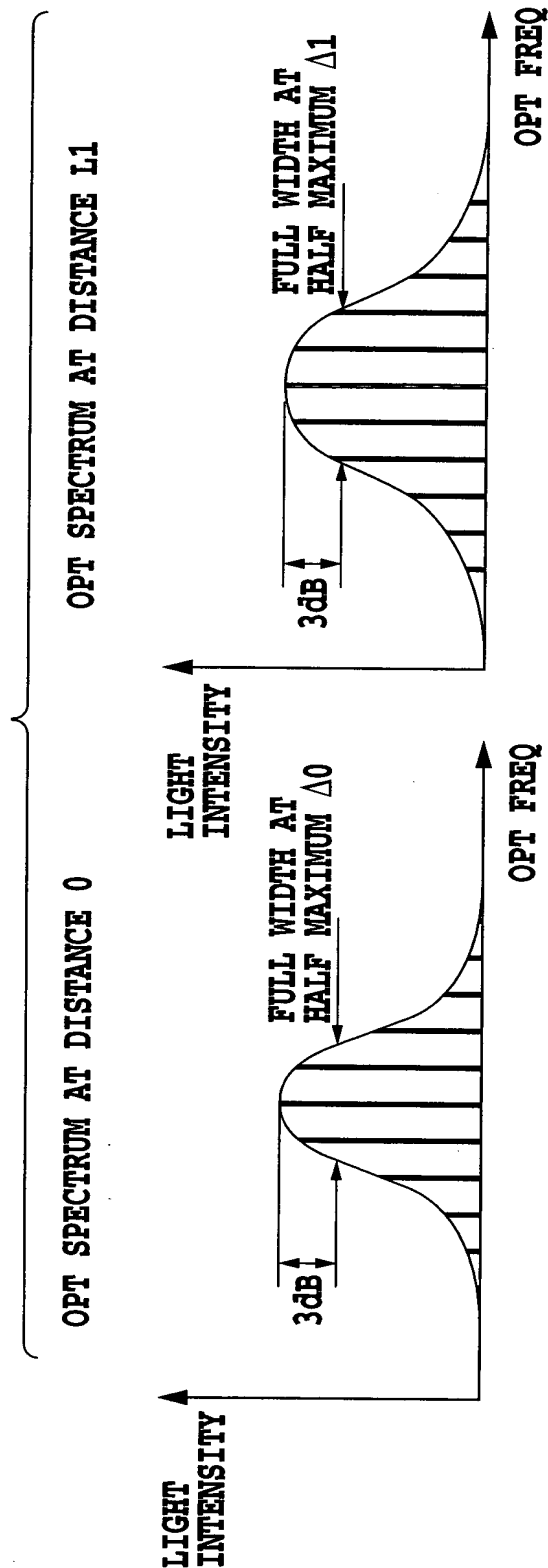


FIG.63A

0900613.070601  
T09070 ET900660



$$\Delta 1 / \Delta 0 = D0 / D1$$

FIG.63B

RELATIONSHIP BETWEEN OPTICAL SPECTRUM OF COHERENT  
COMPONENTS OF MULTI-WAVELENGTH LIGHT AND  
TRANSMISSION CHARACTERISTIC OF DEMULTIPLEXER

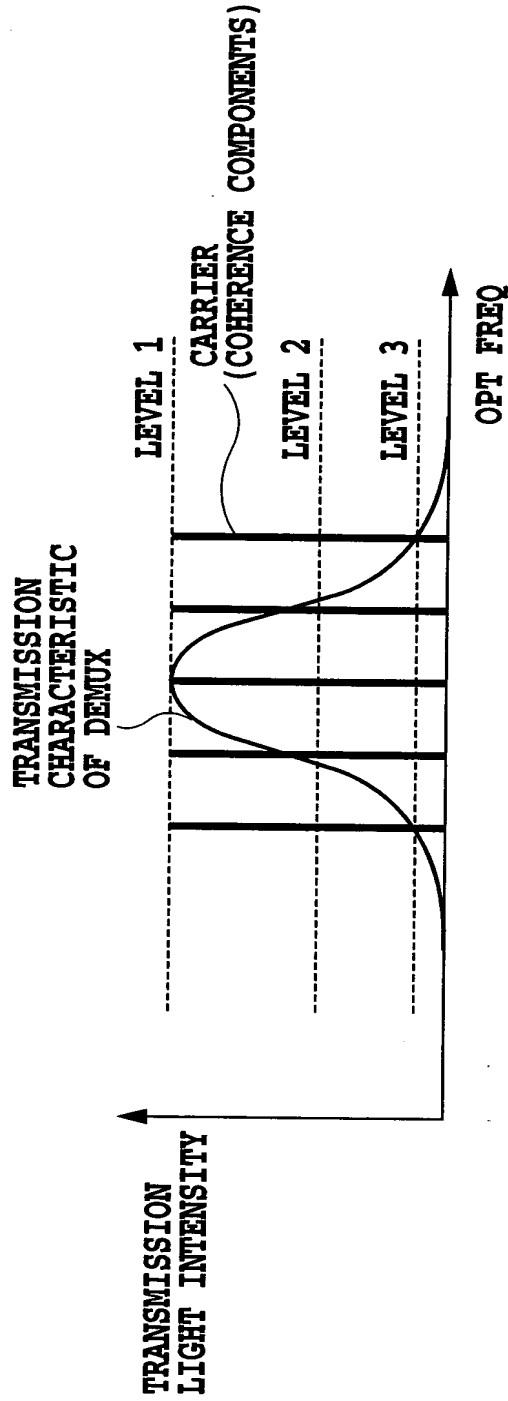


FIG.64

RELATIONSHIP BETWEEN STIMULATED EMISSION LIGHT AND  
SPONTANEOUS EMISSION LIGHT FROM SEMICONDUCTOR LASER

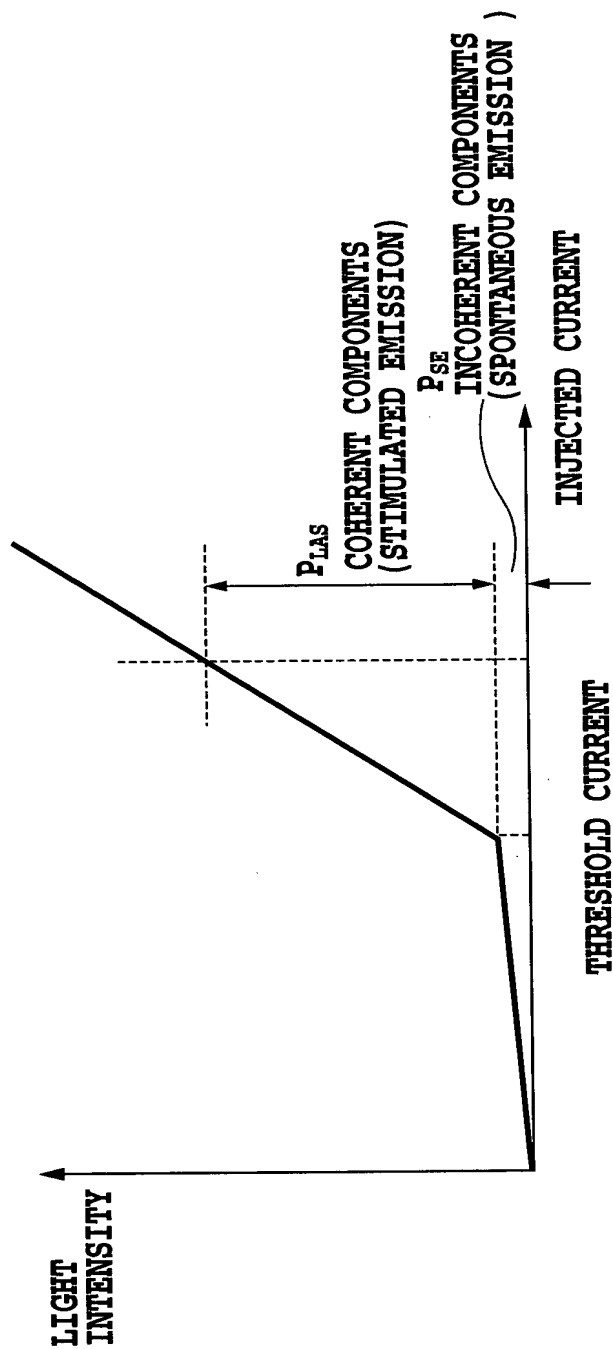


FIG.65

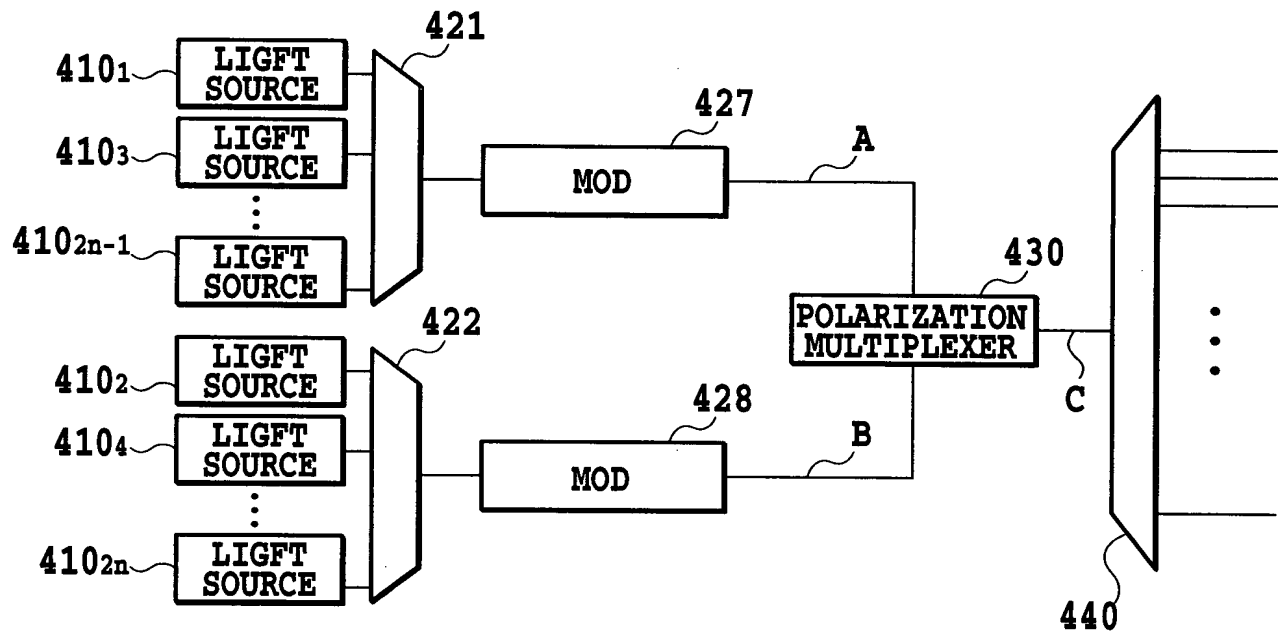
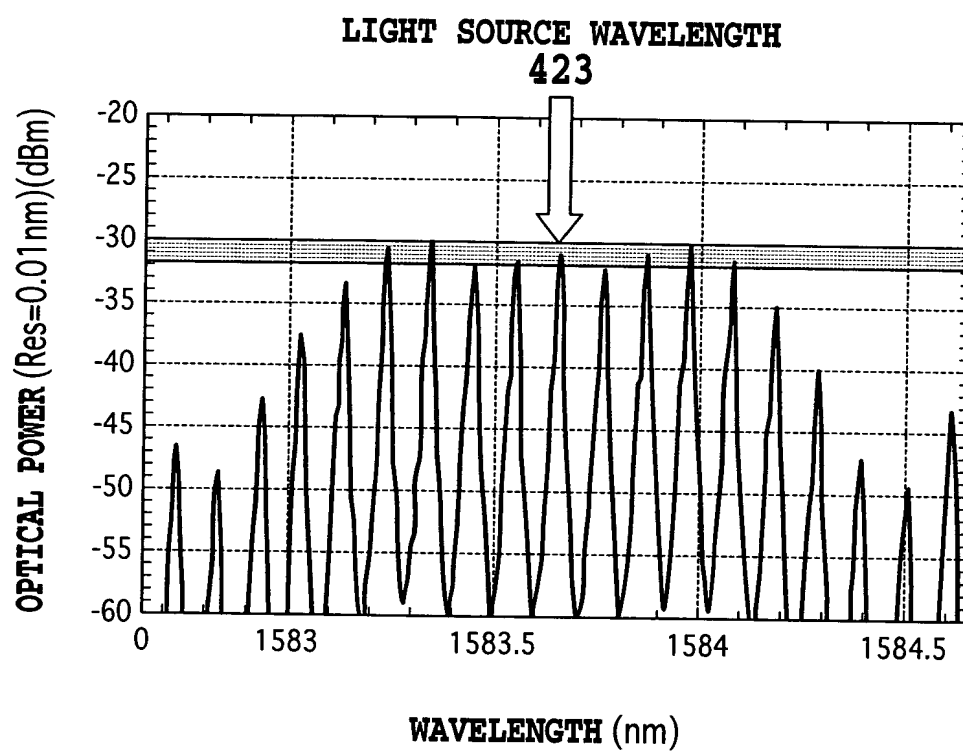


FIG.66

69/74

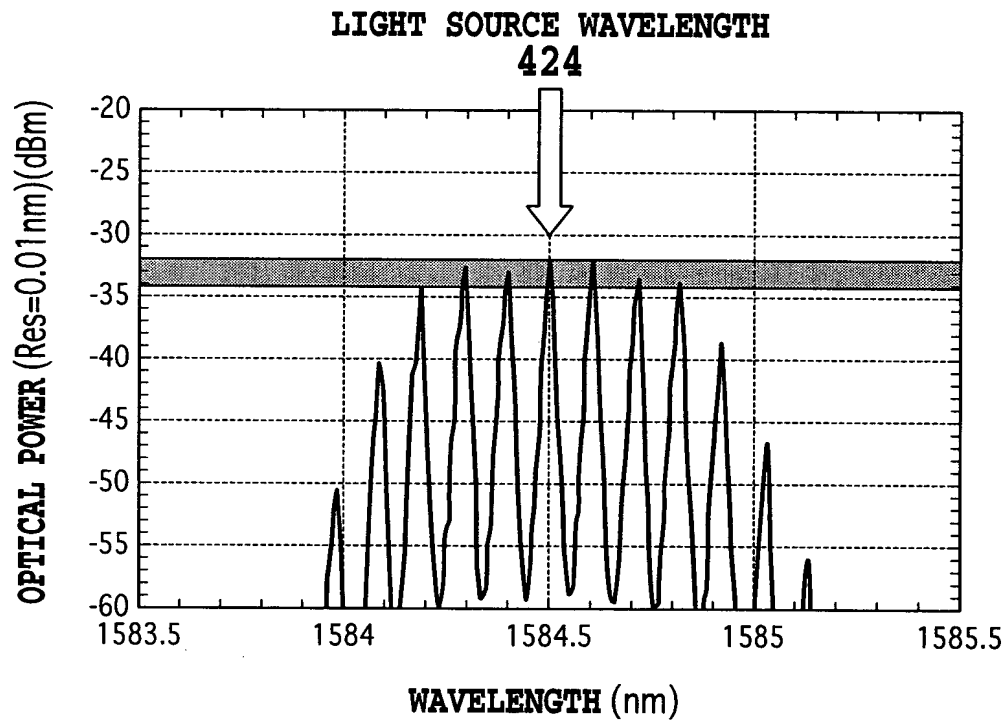


ODD-NUMBER-TH LIGHT SOURCE WAVELENGTH AND SIDE MODES

FIG.67A

70/74

090070"ET900660



EVEN-NUMBER-TH LIGHT SOURCE WAVELENGTH AND SIDE MODES

FIG.67B

109020" ET900660

71/74

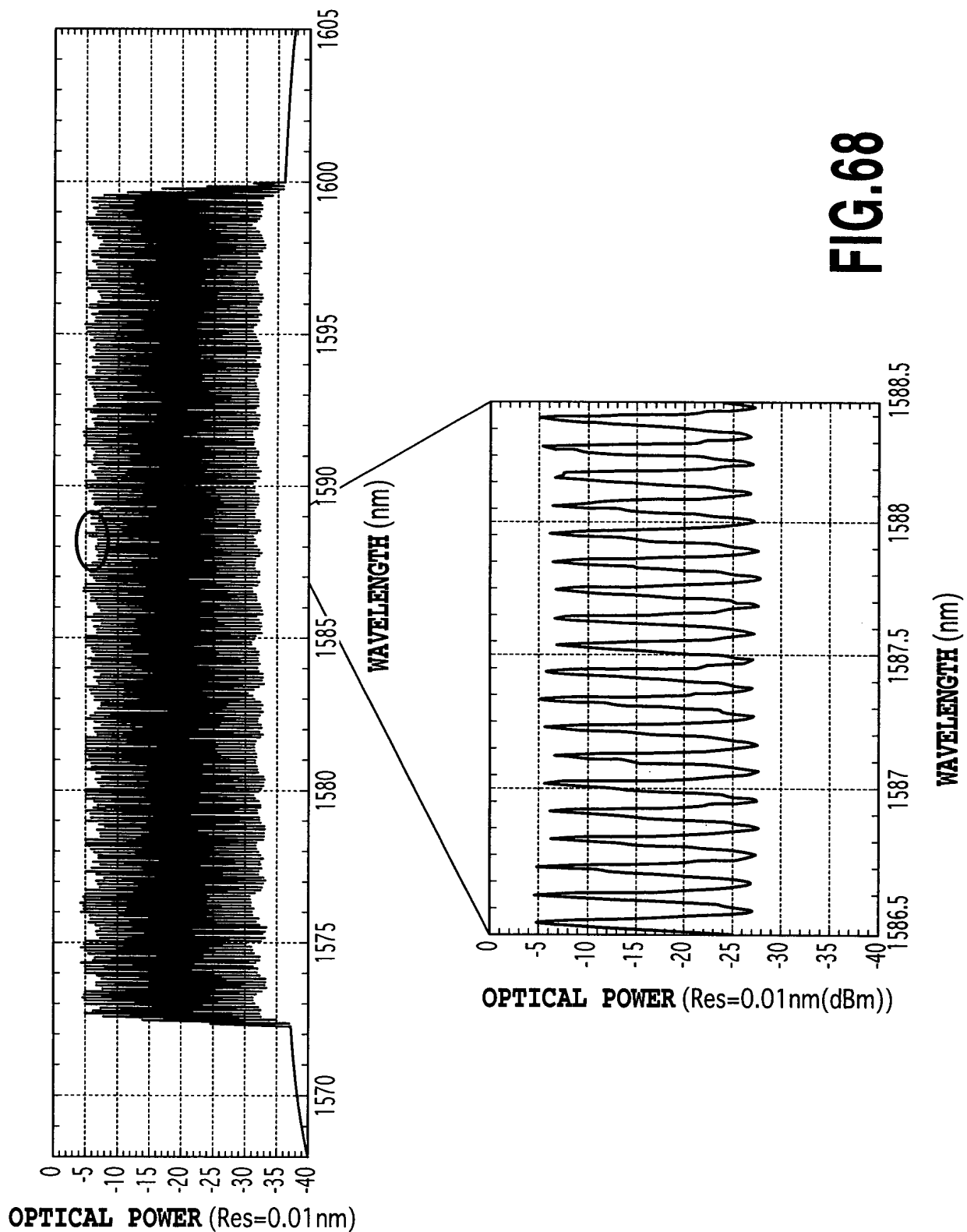


FIG.68

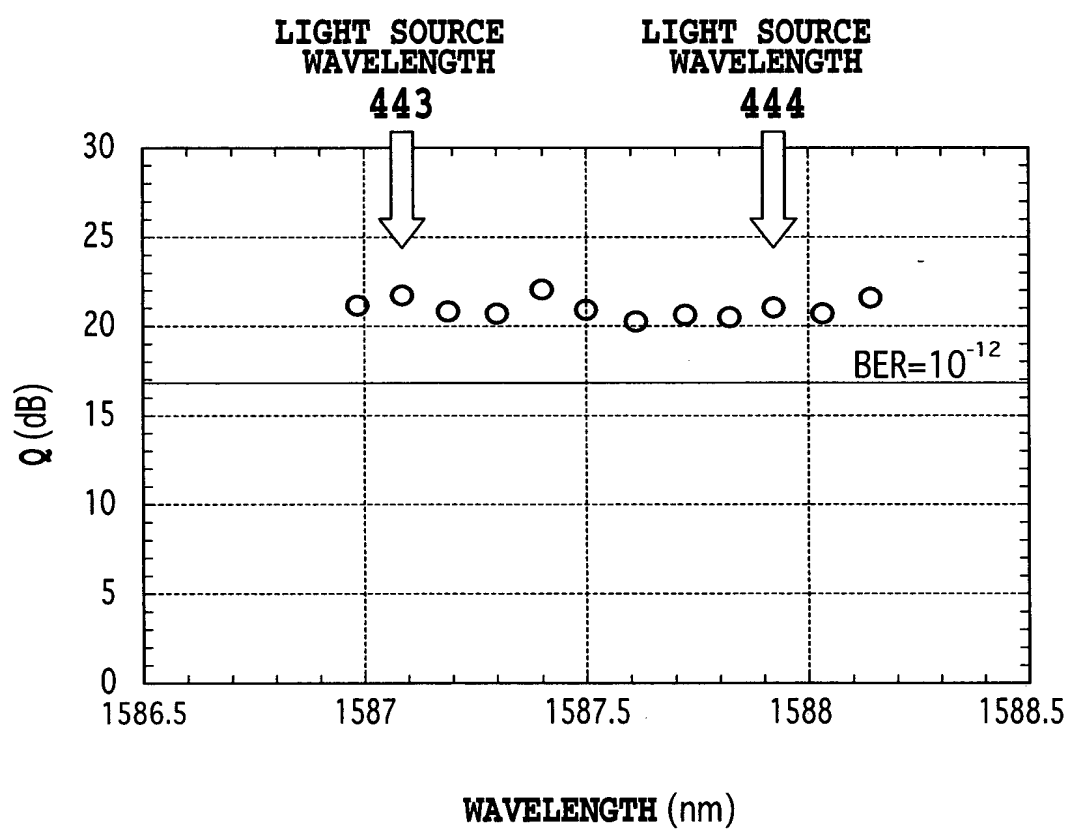


FIG.69

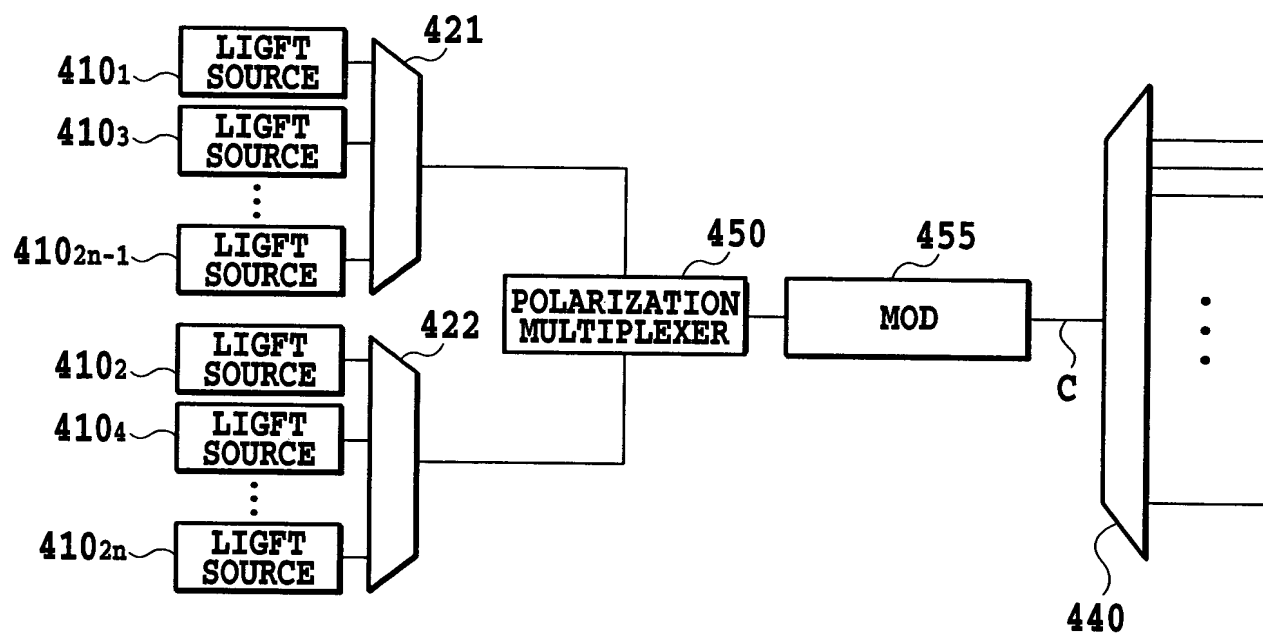


FIG.70

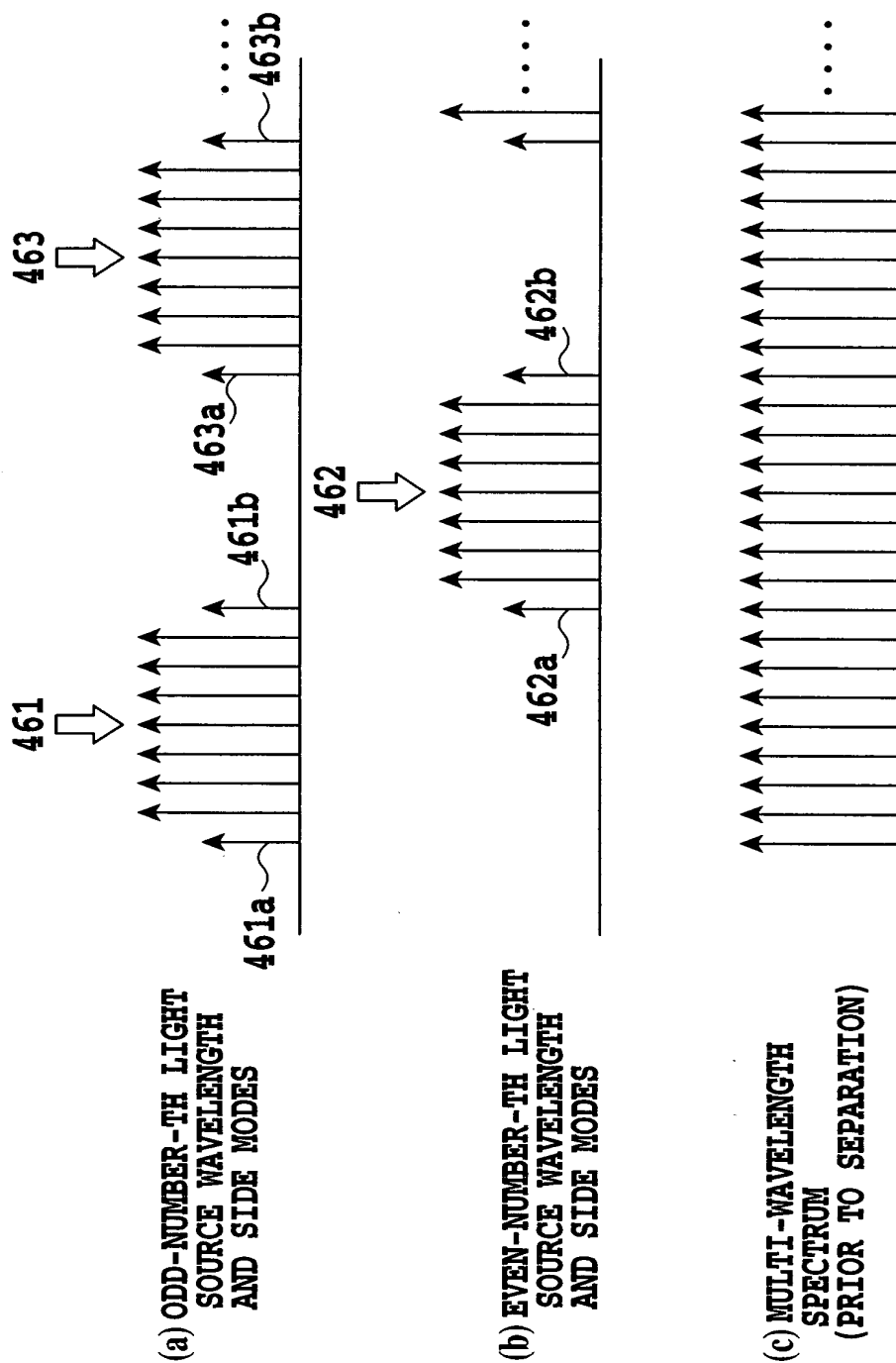


FIG.71